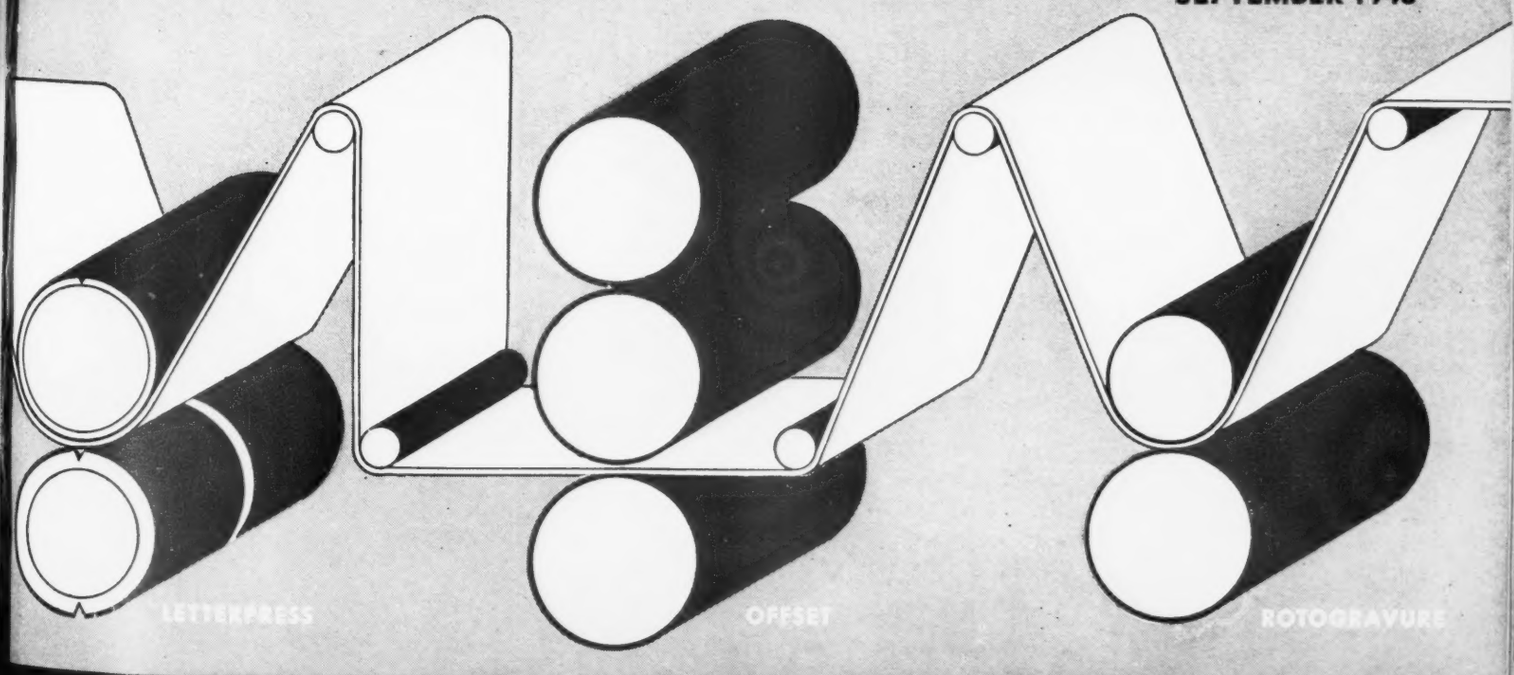
Printing Equipment Engineer

SEPTEMBER 1946



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PRECISION CUTTING AT ITS 40" BEST

SEYBOLD HAS DONE IT AGAIN. Here's the paper cutter the graphic arts industry has asked for. A 40" cutter that will produce fast, accurate cutting and trimming—day in, day out—month in, month out.

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And, upon closer examination, you'll find features never before offered on a paper cutter of this size. You'll find sturdy, double-end-pull construction. You'll be surprised at the faster, snappier cutting action. You'll see why knives require sharpening less frequently; why cuts are cleaner and more accurate; why adjustments are made more quickly; why there is more productive time.

Take a tip. For precision cutting at its 40" best, it will pay you to study, point for point, these sound operator and operating advantages of the Seybold Heavy-Duty 40" before buying your next machine.

Outstanding Reasons Why The Seybold Heavy-Duty 40" Is In A Class By Itself

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Materially longer knife life.

A snappy, slicing cutting action.

Continuous shear, with just the right shear angle.

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Low-maintenance, metal clamp friction unit.

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Heavy-duty, multiple-disc clutch.

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Harris-Seybold Company • General Sales Offices, Cleveland 5, Ohio

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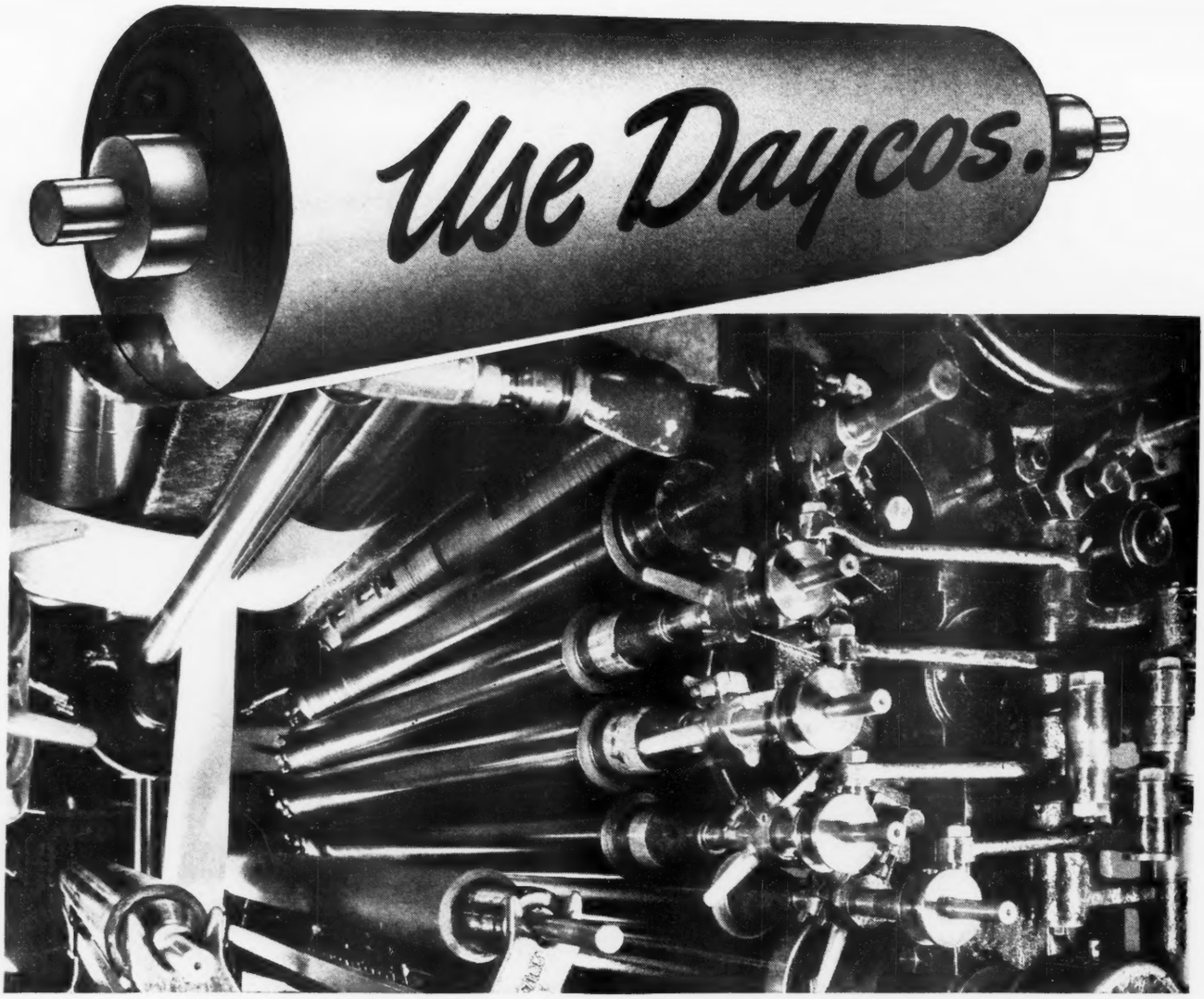

NEWSPAPER ROLLERS THAT SAVE YOU TIME AND WORK

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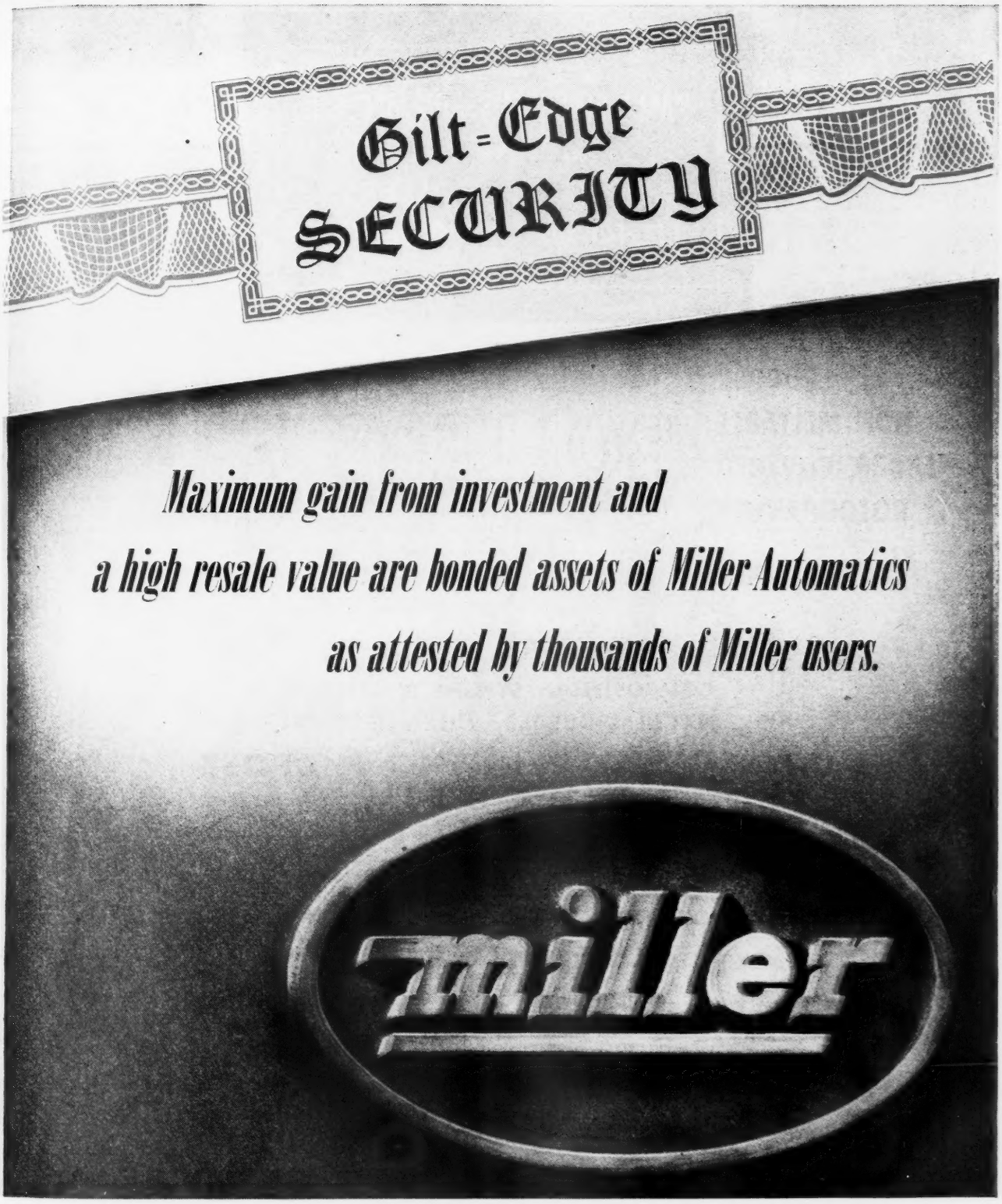
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as attested by thousands of Miller users.
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☛ *THE WARTIME ADVERTISEMENT REPRINTED ABOVE FIRST APPEARED YEARS AFTER MILLER AUTOMATICS IN LARGE PLANT AND SMALL, STARTED RETURNING MAXIMUM GAIN FROM INVESTMENT — AS WITNESS THESE TYPICAL EXAMPLES:—*

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A New York general printing concern — 4,500,000 sheets yearly (9,000,000 impressions) per press averaged from 8 Miller Two-Colors.

A Missouri carton company — over 5,000,000 impressions per press yearly average from 27 x 41 Miller Automatics including a Miller Cutter & Creaser.

A Michigan commercial printer — over 5,000,000 quality sheets (10,000,000 impressions) average per press yearly from 4 Miller Two-Colors.

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TO FACTORY MOST CONVENIENT TO YOU

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PRINTING EQUIPMENT *Engineer*

Volume 72 Number 6

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

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TECHNICAL BOOKS

STANDARD BOOK ON ESTIMATING for PRINTERS—By Fred W. Hoch. Revised 1941 edition. This book is a primer for students and a reference for printers and estimators. Every printing plant should have a copy. Author explains all operations in commercial printing plant and shows production time allowance for each in hours and decimal hours. Size, 6 in. by 9¼ in., 268 pages, $3.75 per copy, cash with order.

PRINTING INKS—Their Chemistry and Technology—**By Carleton Ellis.** Bound in cloth, 6 in. by 9½ in., 560 pages, well illustrated. For printing executives, pressmen, photo-engravers, platemakers, ink manufacturers, chemists, papermakers. Author stays close to printing plant. The solving of new production problems brought about by technological improvements, both in equipment and inks, created the urgent need for this book. Price $7, cash with order.

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PRESSROOM PROBLEMS AND ANSWERS—By Fred W. Hoch. Might be considered a miniature encyclopedia since it contains answers to 334 pressroom problems which have been answered by Mr. Hoch. Written in language of journeyman pressman. Pressmen, production men, paper and ink manufacturers, electrotypers and photo-engravers will find this book of high utility when pressroom problems arise in which tendency is to lay blame on furnished materials used in pressroom production. Size, 6 in. by 9½ in., 258 pages, gold stamped blue cloth. Price, $2 per copy, cash with order.

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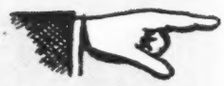
PRINTING EQUIPMENT *Engineer*

1276 West 3rd Street, Cleveland 13, Ohio

QUESTION:

WHAT IS "KORKER" CONTROLLED RESILIENCE?



ANSWER:

THE UNVARYING POWER TO SPRING BACK

TO ITS FORMER SHAPE AND POSITION

That's the answer in a nutshell. Korker Printing Press Blankets have greater resiliency because they have many times more air cells per square inch. And this resiliency is "controlled" because the air cells are "locked in" between the layers of improved fabric. It is this scientifically "controlled resiliency" that helps maintain impression setting longer, prints solids stronger, and screens with less plate wear.

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Wool Felt • Improved Satisfaction
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WHERE AND WHEN YOU WANT IT

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HUBER PRODUCTS IN USE SINCE 1780

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NEWSPAPER
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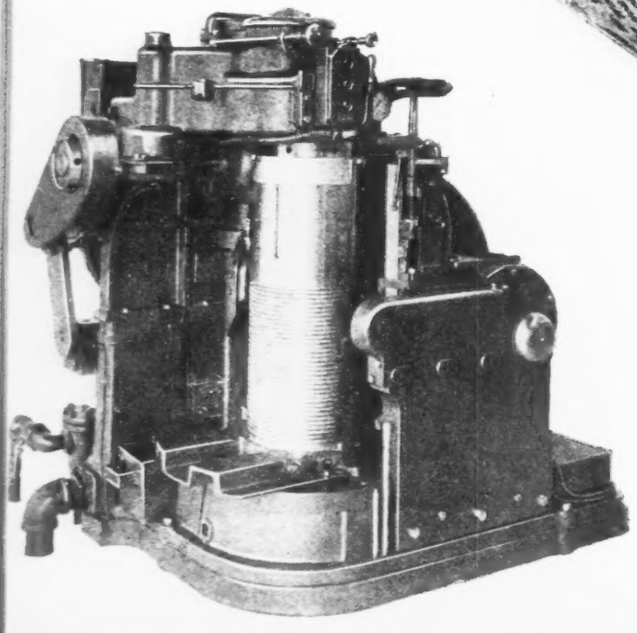

AUTOMATIC
AUTOPLATE

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Geo. H. Morrill presents No. 6 of a series of inserts dedicated to American Journalism

"Thro' the hole in the door of the prison . . "

The annals of early newsdom in colonial America are replete with examples of courage, bravery and no little drama in the fight to preserve "the liberty of speaking" . . . a right which we take for granted today but which had to be won against the forces of intolerance. Take the case of John Peter Zenger, founder of the New York Weekly Journal in 1733, who opposed the authorities through the medium of the printed word. Through official channels attempts were made to label his efforts as libelous; when these proved unsuccessful, unlawful means were utilized. For nine months Zenger languished in jail but earned his place among the great in journalism by issuing his copy "thro' the Hole of the Door of the Prison." Liberty triumphed through the appeal to the jury by Andrew Hamilton who insisted that "the words themselves must be libelous, that is, false, scandalous, and seditious, or else we are not guilty." The jury upheld the cause of liberty . . . "the liberty both of exposing and opposing arbitrary power by speaking and writing truth."

The right to write the truth . . .

The right to write the truth and to print it is firmly established today in spite of the forces which seek to undermine democratic prerogatives. MORRILL, having enjoyed the fruits of freedom of speech, endorses the credo of modern publishing and supports it by providing the means to show the truth in its best light . . . from the reproductive side of publishing.

since 1840 . . .

Since 1840 MORRILL has endeavored to improve the appearanee of the printed word and picture by providing the "know-how" in manufacturing and distribution of newspaper inks—black and color.

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San Francisco, Calif. Los Angeles, Calif.
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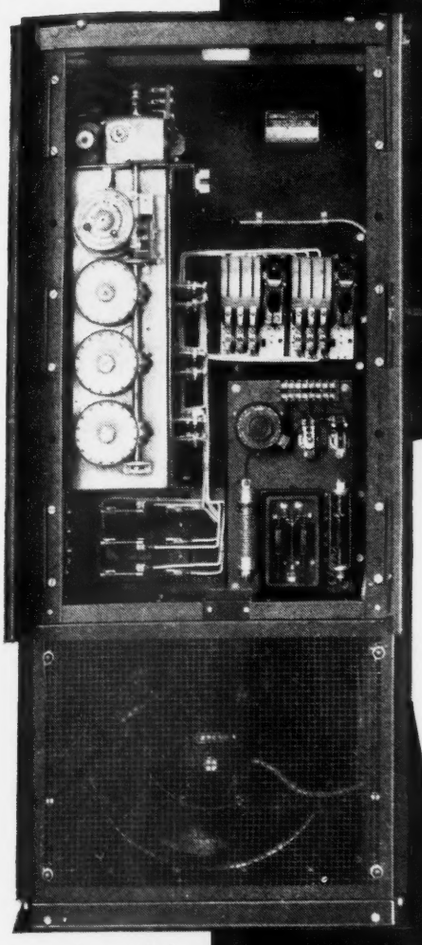
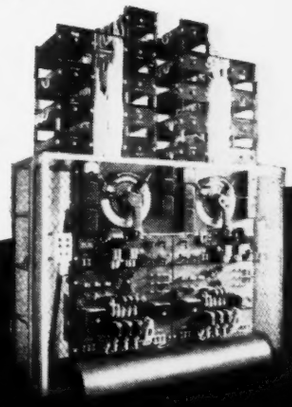
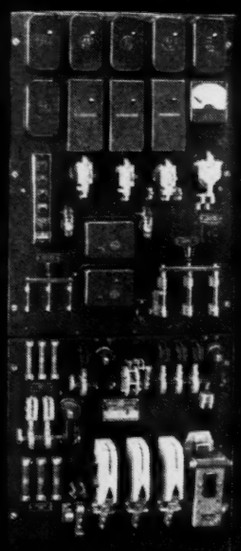


Fan-cooled sec

NEW G-E press-drive control cuts installation time and costs . . . saves space . . . permits easier maintenance and operation

Compare the old-style controller (directly below) with the trim, space-saving control available today. Gone for good are the dust-catching racks of resistors that required so much space and wiring on the job. Installation time and costs have been cut, most of the cable formerly used has been eliminated. It's easy to install—to inspect—to maintain. The new speed-regulating controller, incorporating cam switch, fan-cooled resistors, and speed governor, is completely assembled in a single cubicle. Teamed with the primary panel, this equipment makes a control system that gives an accurately controlled performance with anti-backlash starting and fast, smooth acceleration.





HERE ARE SOME OF THE DESIGN FEATURES OF THE G-E SPEED-REGULATING CONTROLLER

- **totally enclosed, force ventilated**
- **compact—200-hp size is 76 in. high, 34 in. wide, about 72 in. deep**
- **incorporates all speed-control devices in one cabinet**
- **completely factory assembled, wired, and tested**
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GENERAL ELECTRIC

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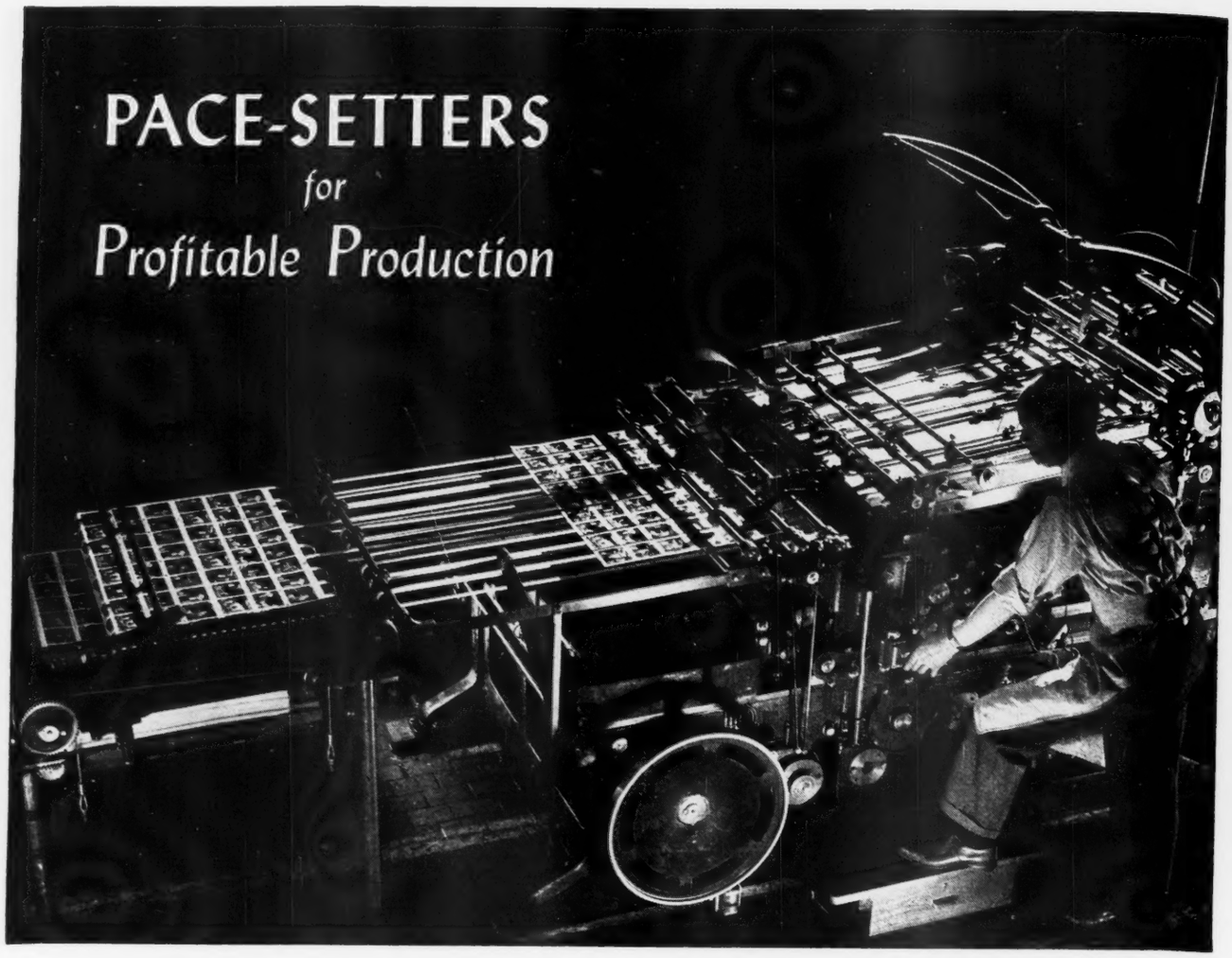
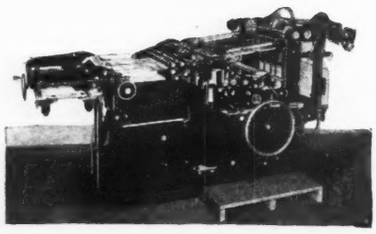
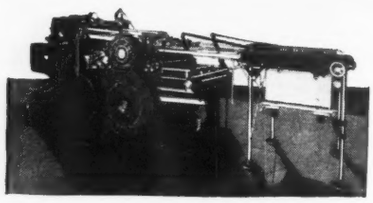
for
Profitable Production







ATF No. 2 KELLY *(Illustrated at top)*
handles sheets from 8½"x11" to 24"x35"
ATF No. 1 KELLY
handles sheets from 8½"x11" to 22"x28"
ATF C-KELLY
handles sheets from 7"x10" to 17½"x22½"

They give you **more** *of everything you need... more speed, more volume, more impressional strength, finer register, better ink distribution, more versatility,* **and more profit.**

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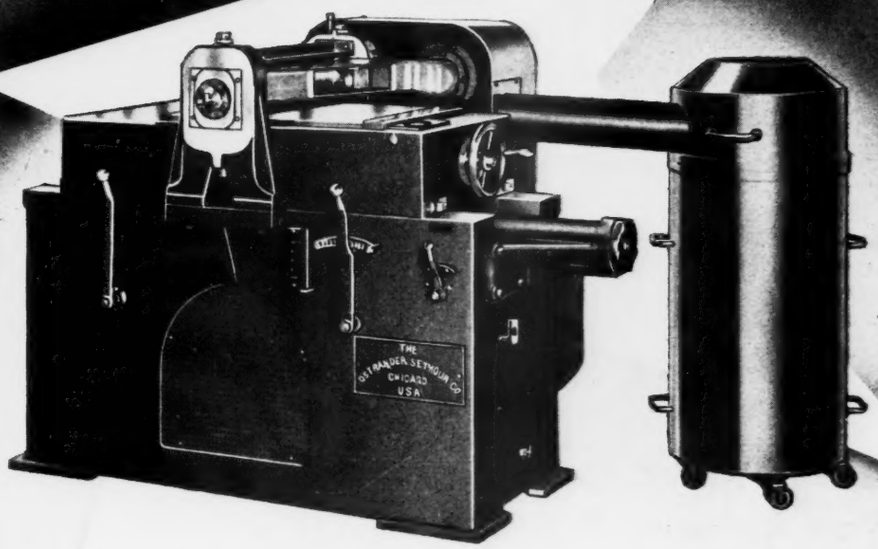

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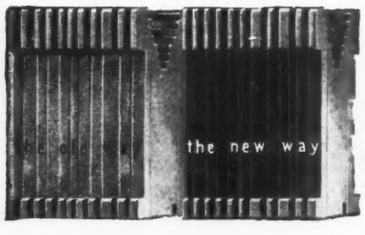


Matrix Contrast Service

Board of Governors for the International Association of Printing House Craftsmen, elected for the year 1946-1947 at the September Montreal convention. Front row, left to right, they are: First Vice President—A. Gordon Ruiter, Superintendent, Letterpress Div., Forbes Litho Co., Boston; President—Wm. H. (Bud) Griffin, Griffin Bros., Typesetting and Offset-Lith Platemaking, San Francisco; Second Vice President—Gradie Oakes, General Manager, Process Color Plate Co., Chicago; Third Vice President—Russell Hogan, Plant Manager, Blanchard Press, New York.

Second row, left to right: Treasurer—Edward T. Samuel, Superintendent, Samuel & Walker, Printers., Cleveland; Immediate Past President—H. Guy Bradley, Production Manager, Eli Lilly Press, Indianapolis; Immediate Past Secretary—Herbert Threllfall President, John F. Greene Co., Providence, R. I.

Members of the Board not present when this picture was taken are: Secretary—Pearl E. Oldt, Teacher of Printing, Central High School, Grand Rapids, Mich.; Chairman, Educational Commission—J. Homer Winkler, Asst. Supervisor, Graphic Arts Div., Battelle Memorial Institute, Columbus, O.; Chairman, Research Commission—Herman A. Slater, Production Manager, Chas. E. Brown Printing Co., Kansas City, Mo.; Representative-at-Large—John L. Reay, Vice President, Braden-Sutphin Ink Co., Cleveland. Chairman, Publications Commission—D. W. (Bill) Stock, Manager, Lawrence Electros, Cleveland.

Craftsmen's Convention

held in Montreal marked by high order of its technical clinics — Association functioning usefully to members.

By STAFF WRITER

W. H. GRIFFIN, of San Francisco, was elected president of the International Association of Printing House Craftsmen at the 27th annual convention held in the Mount Royal Hotel, Montreal, at the final session on Wednesday, September 11. Other officers elected are: First Vice President, A. Gordon Ruiter of Boston; Second Vice President, Gradie Oakes, Chicago; Third Vice President, Russell Hogan, New York; Treasurer, Edward T. Samuel, Cleveland; Secretary, Pearl E. Oldt, Grand Rapids, Mich.

The report as given by the nominating committee was voted upon without a contest at the final session of the convention. At the meeting of the nominating committee, Fred Baillie, of Ottawa, Can., was a contender for the third vice presidency, and received support from numerous clubs in the United States because of the argument that since the "Share Your Knowledge" movement is international in character, there should at all times be a representative of Canada on the Board of Governors of the Association. An invitation was extended by Albany, New York, Craftsmen to meet in that city in 1947, the dates to be selected later by the Board of Governors.

Will Have Paid Secretary

The most spirited session of the convention was that on Tuesday forenoon at which the question of an executive secretary was voted upon. The question was put up to the convention by means of the report of the board of governors of the International Association which was presented by Vice president Griffin. He traced the history of the agitation for an employed full-time secretary to be paid for services, who would have a voice in the deliberations of the board of governors, but no vote as does the elected international secretary under the old arrangement. Mr. Griffin and others argued that the work of the International has become so voluminous that it is no longer practical to expect that a man dependent upon some active connection in the industry for his income can do the job of keeping track of all the business of the association as a sideline. It was also argued that promotion work should be taken care of better than under the methods that have been in operation since the International was organized in 1919.

Numerous speeches were made during the debate on the basis that the association has progressed during its past history and that it could continue to make progress in the future. Others argued that the expected additional income that would accrue from the one dollar increase in the international dues paid on a per capita basis by the local clubs would not be adequate to defray all the expenses required to operate headquarters with a paid appointed secretary. The answer of the board of governors as voiced during the debate by Mr. Griffin and others was that if the proposed arrangement were put into effect and did not work out as expected, it was the duty and responsibility of the board of governors to make recommendations to the entire organization in the years or months to come to either make arrangements for the proper financing of the permanent headquarters, or to recommend to return to the volunteer arrangement which could be done, if the future conventions of the association so decided. When the votes were counted, the score was 34 clubs in favor of the new plan as recommended by the board of governors, and 15 clubs opposed. The opposition came principally from the Eastern club and was based upon the impression that the plan

Presented With Gavel

UPON assuming the office of International president, W. H. Griffin was presented with a gavel made of wood of the Red trees of California some of which are said to be a thousand years old. The presentation speech was made by Oscar Pederson, president of the San Francisco Club of Printing House Craftsmen, who said it was the gift to Mr. Griffin from the club.

was being inadequately financed. Necessary changes in the Constitution of the organization will be submitted in due order to the clubs of the entire association. If the vote is favorable concerning the changes, the plan as voted upon by the convention will then become operative. If the vote is unfavorable on the constitutional amendments, the international secretary will continue to serve as heretofore on an elective basis.

New Type of Clinic

Technical problems concerning layout and erection of new printing plants and the modernization of old establishments was a new clinic introduced in their program by Craftsmen, while the tried and true subjects that develop genuine craftsmanship were also freely discussed.

Third Largest Registration

With a registration of 932, the convention was the third largest registered in the history of the organization, other leaders having topped the record in New York during the 1939 Graphic Arts Exposition which is second and the top record was made in Cleveland in 1937 with a registration 1,060. In consequence of the fine record made, the Montreal Club received numerous compliments because of its achievements, under difficulties. The two co-chairmen, namely, R. Lorne Cummings, Vice President and General Manager of the Globe Paper Box Co., and Neil B. Powter, Sales Promotion Manager of the Howard Smith Paper Mills, Montreal, shared honors with all the 25 chairmen of sub-committees.

Sessions Commence Promptly

One of the noticeable things about the management of the convention was that most of the sessions began nearly on time and concluded at about the schedules set for recesses. The addresses of welcome were particularly short, though the bilingual character of Montreal was impressed upon the visitors at the first session when the Honorable Paul Beaulieu, official representative of the Provincial Government of Quebec, spoke first in the official French language, then in English in welcoming the visiting Craftsmen in attendance from all parts of the United States and from the various provinces of Canada, in which clubs are in operation. He expressed his pleasure briefly in welcoming "the most skilled men in your craft." He was followed by Colonel Reverend Guy Laramee, former chief chaplain of the Second Canadian Division, who offered the invocation, also in French and English. Others who participated in the welcoming ceremonies included Gerard H. LaFontaine, president of the Montreal Club, the two convention co-chairmen—Mr. Cummings and Mr. Powter—and W. H. Griffin, first vice president of the International who responded in behalf of the visitors. International President H. G. Bradley, of Indianapolis, remarked jokingly that he was glad that he was not obliged to speak in any language but English because that was all he knew. He then introduced his associates among the elected and appointed members of the board of governors, after which he read his report stating that the membership had increased to 8752, and that much progress otherwise had been recorded. He commended the district and the local club officers and reminded the conventioneers that strong clubs resulted in strong district organizations, and strong district organizations resulted in a stronger International. He predicted greater achievements for the whole movement because of the value of the "Share Your Knowledge" idea, and the devotion of the members in promoting the cause.

The bride and groom of the 1946 International Craftsmen's Convention held in Montreal, September 9, 10 and 11 are Mr. and Mrs. Gradie Oakes. Mr. Oakes is Second Vice President of the International. He is also President of the Process Color Plate Co., Chicago.

Typographic Clinic

AT THE Monday afternoon session, two clinics were held, one on the subject of Typography, and the other on Photo-Mechanical Processes. These and all other clinics for the entire convention period had been arranged under the direction of the educational commission headed by J. Homer Winkler of Columbus, Ohio.

Wilbert Hamilton, General Foreman of Composition in the Canadian Government Printing Bureau at Ottawa, presided at the Typographic Clinic. Speakers included Paul A. Bennett, in charge of Typographic Layout of the Mergenthaler Linotype Co.; Howard N. King, Vice President of Maple Press, York, Pa., who is Typographic Counselor of Intertype Corporation; and MacD. Sinclair of Cleveland, Editor of *Printing Equipment Engineer.*

Mr. Bennett used copies of a specially prepared 16-page booklet for illustration purposes, copies of which had been previously distributed to the men in the conference. He acted as a sort of a guide, directing the students of typography to the different characteristics of the various faces of type shown in the booklet. He explained that any comments made to a mixed group of men at a convention must of necessity be elementary in some respects because the talk must be keyed to the average man in the audience. He practically drew aside the curtain from the innermost thoughts of the type designers, and revealed the methods by which they determined the color and shade of the ascenders, descenders, and bodies of type, so that when each letter was to be placed in combination with others, the whole view would be pleasing to the eye of the reader, and cause him to want to read more and more of the page. He said that designers had more leeway in designing display type because its purpose was primarily to attract attention, while book type must never be designed to appear "flippant."

Mr. Bennett explained that 12 pt. type was usually the size with which a designer of a face started in creating a type family, and as such families were increased or decreased in point size, proportionate dimensions were changed to meet recognized mechanical requirements.

In analyzing the center spread of the "text book" used in the study, Mr. Bennett directed the attention of the audience to the points of similarity and difference of each of the 10 faces of type illustrated on the two facing pages. He referred to the thousands of tests which had to be made by type designers in order to determine what weight to give to each line of many that constituted a letter so that each letter "could get along with each other letter" of the face. Among the faces of type that have survived over a period of 25 years, he mentioned among others, Bodoni, Bookman, Caledonia, Caslon, Garamond, Baskerville and others. He advised that managers of printing plants should select type that will best serve all purposes in a shop, if supplies must be limited, while on the other hand if they were doing business with advertising agencies the typographers should put in the faces that they want.

King Discusses Type Usage

Mr. King used stereopticon slides to illustrate the right and wrong way in which to use type. He worked under a disadvantage because of the operation of the machine, but demonstrated how various kinds of typography should be handled to fulfill the purposes for which the messages of authors should be put in type. With each warning as to what to avoid in typography, the speaker gave a positive illustration of how to do the particular bit of typography better. He stressed the value of selecting display types that are good to look at; that white space should be considered a factor in good typography as well as the position of display lines. He warned users of type

Presidential Appointments

APPOINTMENTS were announced by the newly installed international president, W. H. Griffin, at the final meeting of the convention, as follows: Chairman, Educational Commission, J. Homer Winkler, Columbus, Ohio; Chairman of Research Commission, Herman A. Slater, Kansas City, Mo.; Chairman of Publications Commission, D. W. Stock, of Cleveland; Representative - at - Large John Reay, Columbus; Foreign Representative, DeWitt A. Patterson, New York; International Historian, Charles Conquergood, Toronto; Public Relations, Gordon Holmquist, Los Angeles; Chairman Bulletin Contest, Edward Christensen, Chicago.

that attempts to use too many types to emphasize certain parts of the copy would defeat the purpose of the author. He applied warnings to the use of rules, caps, italics, and even white space, and in each instance showed by means of illustrations how actual specimens of bad typography looked, and how he had the jobs reset to convey ideas of better typography to the audience.

"Don't waste time in doing stunt typography," said Mr. King. "In this age of atomic energy, make it easy for the reader to follow the message step by step. You as typographers must use your type to stimulate the interest of the reader in the message being presented."

In answer to a question, Mr. King said that a good way for a beginner to become acquainted with different type faces is to trace upon paper the lines of various letters of particular type faces, after which he will learn the characteristics of different faces. He also advised that beginners might study with profit the various type faces shown in specimen books and that trade publications also were good sources of information.

During the question and answer period Frank E. Swanberg, of Chicago, who is director of typography of Spiegel's, wanted to know if the designers of type faces considered the needs of certain of the large mail-order houses for special type faces. He indicated that the faces should be larger than the point size of the bases because usage of type by mail order houses as a means of supplementing information conveyed by pictures was condensed into less space than pictures.

Mr. Bennett replied that in order to place a seven point face on a six point body as Mr. Swanberg suggested would distort the appearance because it would necessitate the shortening of ascenders and descenders, and such matrices would not be usable for newspapers and commercial shops other than the plants in which mail-order composition was done. Mr. Bennett named several type faces had been designed for newspaper usage which increased the size of the faces.

Photo-typesetting

MacD. Sinclair spoke on *Photo-Typesetting*, and said at the outset of his address that an answer which he obtained from an equipment manufacturer concerning the reason why more progress has not been made in developing photo-typesetting equipment was that innumerable patents have been granted to inventors, and that "a manufacturer would find it extremely difficult to proceed with the design of a machine for fear of infringement upon the patent protection previously granted to other inventors." He indicated that another element entering into the situation is that "some inventors might want exhorbitant financial settlement in excess of the returns which would be available from what is now a limited market for photo-typesetting machines."

He said: "Granted that photo-typesetting equipment were available now, there are a number of other hurdles which must be overcome. These are: The present seeming mental attitude of letterpress printers whose minds are inclined to run along in the mechanical groove rather than to adopt a photographic variation of a venerable profession. There is also that period through which offset-lithography has been passing—the training of workmen competent to operate the machines. During this period operators will be trained to perform a combination of two processes which heretofore have been done by two separate craftsmen, each skilled in his own profession.

"It can also be seen that the artist, layout man and the plate-maker are very much in the picture with respect to photo-typesetting. If anything, their professions will be enhanced by increased usefulness."

He discussed three proposed photo-typesetting machines, a number of patents for which have been issued by the U. S. Patent Office. These were the Highton photo-typesetting machine, the Intertype machine and the Huebner Photo-textypesetting machine.[1]

In closing, he said with respect to author's corrections: "Human nature being what is is, we are not in a position to say whether or not the customer's change of mind will be the determining factor in the success or failure of photo-typesetting. Also, we do not know what are the limiting factors (not knowing the plans of the sponsors) which might eventually limit photo-typesetting to certain classes of composition. It appears that the present intended function of photo-typesetting equipment is to provide composition either in negative or positive film or paper form for use in making plates by offset, gravure or by photo-engraving."

[1] Descriptions of the Intertype and Huebner devices appeared in the May 1946 issue of *Printing Equipment Engineer*.

Photo-Mechanical Processes Clinic

JOHN A. McLEAN, Superintendent Plate-making Division of the Government Printing Office, Washington, D. C., presided. The meeting was held Monday afternoon, Sept. 9.

R. W. Gardner, Graphic Arts Sales Div., Eastman Kodak Co., reviewed the progress and development which has been made in color photography since its inception in 1860. Mr. Gardner said that reports of methods in scientific journals as far back as 1860 are essentially the same as the methods used in development of the process in 1936-1937. He displayed process color negatives from which four-color process photo-engravings were made to produce a booklet printed by a Rochester printer. Mr. Gardner further stated that the process known as process relief is now known as the dye process.

Harvey Glover, President of Sweeney Lithograph Co., Bellville, N. J., exhibited an artificial human eye in which lithography played an important part in production. The pupil, iris and the white of the eye were printed by lithography on a thin transparent plastic in natural color. The film was then embedded in the body of a plastic eye during the molding process. Mr. Glover mentioned that the colors are permanent.

Filter Device for Camera Lamps

Mr. Glover described a filter device for the diffusion of light in the making of color separation negatives. These filters are circular disks made of colored Lucite, one red, one yellow and one blue. The disks are placed one on top of the other and are positioned in front of the copyboard lamps. During camera exposure the disks are caused to revolve at high speed to create white light. It is Mr. Glover's claim that the filters assist in intensifying the color value of the separation negatives.

Natural Color Photography

The next speaker was Reginald A. Batten, President, Rapid Grip and Batten, Ltd., of Toronto, Can. Mr. Batten's address was a combination sound-slide presentation with respect to *Natural Color Photography—its Production and Reproduction.*

Mr. Batten first described the uses of color in everyday life. The story of color is so closely bound up with the story of man that the two are inseparable. Going back to the life and times of the 16th century before Christ we learn that man applied color to stonework and masonry. When he contrived his first record of people and events, he put them down in stone and colored them. In China, during the Ming dynasty, skilled artists created new forms of pottery and employed color on a scale which through the years has remained magnificent and incompar-

able. When the white man discovered America, he also discovered that the Indian had already explored methods by which he could develop color artificially and apply it both to his clothes and to his body. When Gutenberg discovered printing from movable type, the practice of hand illumination in color continued. Industry, too, has explored the psychological effects of color upon the worker. Now, drab walls, floors and dark colored machines are rapidly becoming a thing of the past. Our homes have blossomed out in veritable rainbows of color. Since color speaks a universal language, it has become one of the vital merchandising forces in use. It has demonstrated its stopping power in advertising, its eye-appeal, its effectiveness in winning the acclaim of markets and buyers.

Color photography in any of its present forms is not a transient mode of expression. Since 1900, direct color photography has made great strides both in technique and in the development of new materials. Two principal methods of natural color photography are now used throughout the world. One method is the natural color photograph on paper or similar support and the other is the color transparency of which Kodachrome and Ansco color are the best known.

The speaker mentioned a number of processes for putting the natural color photograph on paper. The one described by him was Tri-Chrome Pigment photograph by means of a One-Shot Color Camera. His description of the process together with the slides exhibited to demonstrate the making of a natural color photograph completely absorbed the attention of the audience.

Photo-Composing by Letterpress

F. W. C. French of the Lanston Monotype Machine Co., addressed the Craftsmen upon the subject of *Photocomposing*. He introduced his subject by saying: "It (offset) is a sister craft to letterpress, and like letterpress, the more highly it is practiced as a craft, the more worthy it becomes of recognition as an art."

Speaking of competitive forces at work in the industry, he said: "Multigraph, multilith, Varitype, automatic typewriters, mimeograph—these also are with us, and everything they do, as bad as it is from our point of view, reduces by so much the volume of printing. No amount of contempt or ridicule can laugh them out of existence. Definitely, it is our immediate concern to bring together in the best interest of the arts to which we owe our living all elements that can be combined to the common end of holding what we have, and of increasing it if possible."

Mr. French defined the term "photo-composing" as applied to offset process by stating that in letterpress printing the words "composition" and "composing machine" means typesetting and typesetting machines. In offset, however, the derivation seems to be from the art of painting or sketching, composition meaning the arrangement of images in such manner that the whole is dimensionally and optically correct. A photo-composing machine is one that uses a photographic method to place in their proper positions the elements comprising everything that is to be included in one form. A photographic method is not of necessity one that uses a camera, but rather one that is dependent upon the effect of actinic light rays upon a surface carrying a sensitized coating.

Mr. French compared the operations in looking up certain types of letterpress forms as against doing the same type of work by photo-composing machine.

To illustrate, he said: "I have spent a full day locking up 48 pages of insurance tables, lining up the heads and folios, and joining the ruled borders at the top of each page. Did you ever hear of squeeze? Well, that's the reason we did not join the rules at all four corners. After the form had been put on the press, I spent another three or four hours bent over the press bed lining up the form again because the pressman backed off the quoins to lock the form in.

"Offset printers work with negatives, scribing the borders with joints at all four corners, lining up in a composing machine, and putting it all properly on a plate in not much more time than I needed to drop the furniture in place with the necessary leads and cards for gutters and margins."

The speaker continued: "I know of no reason why you who are in composing rooms should buy and operate photo-composing equipment. The solution is much easier than that and in some ways it is simpler". He suggested that letterpress printers should seek the assistance of the photo-engraver in ways perhaps that have not been considered previously.

Mr. French related that in Philadelphia a man installed a photo-composing machine. He is not connected directly with any photo-engraver, and thus his service is considerably wider than if he were. He furnishes negatives only to the

(All photos by Wayne Gaspar)

Chairman and Speakers at Clinics during 1946 International Craftsmen's Convention, Montreal, Can.—The technical program which was arranged by Educational Commissioner, J. Homer Winkler, was high class and technologically informative in every respect. Many favorable comments were made by plant executives upon the quality and coverage of the subjects presented. The chairman and speakers on the opposite page are identified as follows:

1—Paul A. Bennett, Mergenthaler Linotype Co., spoke upon *Type Design* at the Typographic Clinic. The type designer's technique and the fitting of letters for a font were explained thoroughly.

2—Howard King and Wilbert Hamilton. Mr. Hamilton, General Foreman of Composition to the Canadian Government Printing Bureau, presided at the Typographic Clinic. Mr. King is Typographic Counsellor to Intertype Corporation. He spoke on *Type Usage*. His talk was illustrated with many slides.

3—MacD. Sinclair, Editor of *Printing Equipment Engineer* and Wilbert Hamilton hold a pleasant conversation. Mr. Sinclair gave an address on *Photo-Typesetting*.

4—John A. McLean, Platemaking Superintendent of the Government Printing Office, Washington, D. C., presided in competent fashion at the Photo-Mechanical Processes Clinic.

5—Reginald Batten of Rapid-Grip and Batten, Ltd., Toronto, gave an excellent address and exhibited a beautiful movie on *Color-Photography*.

6—Use of the *Photo-Composing Machine* for Letterpress Platemaking was discussed by F.W.G. French of the Lanston Monotype Machine Co.

7—Roy Ecclestone of Rolland Paper Co., Ltd., Montreal, presided at the Paper Clinic.

8—*New Developments in Printing Papers* was the subject of an address delivered by Trouble Shooter R. I. Drake of the Champion Paper and Fibre Co.

9—William R. Maull, Manager, Sales and Service, Mead Corporation, Chillicothe, O. Mr. Maull discussed *Printability of Paper* at the Paper Clinic Tuesday afternoon.

10—This is Charles Pitkin of Doubleday, Inc., New York. He presided at the Plant Building and Modernizing Clinic Tuesday afternoon.

11—Robert W. Dickerson, Architect and Engineer, of Maier and Walsh & Dickerson, Cleveland, outlined general procedure for buying a site and for planning a new building under the subject, *Printing Plant Building*.

12—Plant Engineer A. C. Arnesen of American Type Founders, discussed *Plant Modernizing at the* Plant Building and Modernizing Clinic Tuesday afternoon.

13—Allan Robinson, Principal of the well-known Mergenthaler Vocational School in Baltimore conducted the Job Analysis and Training Clinic.

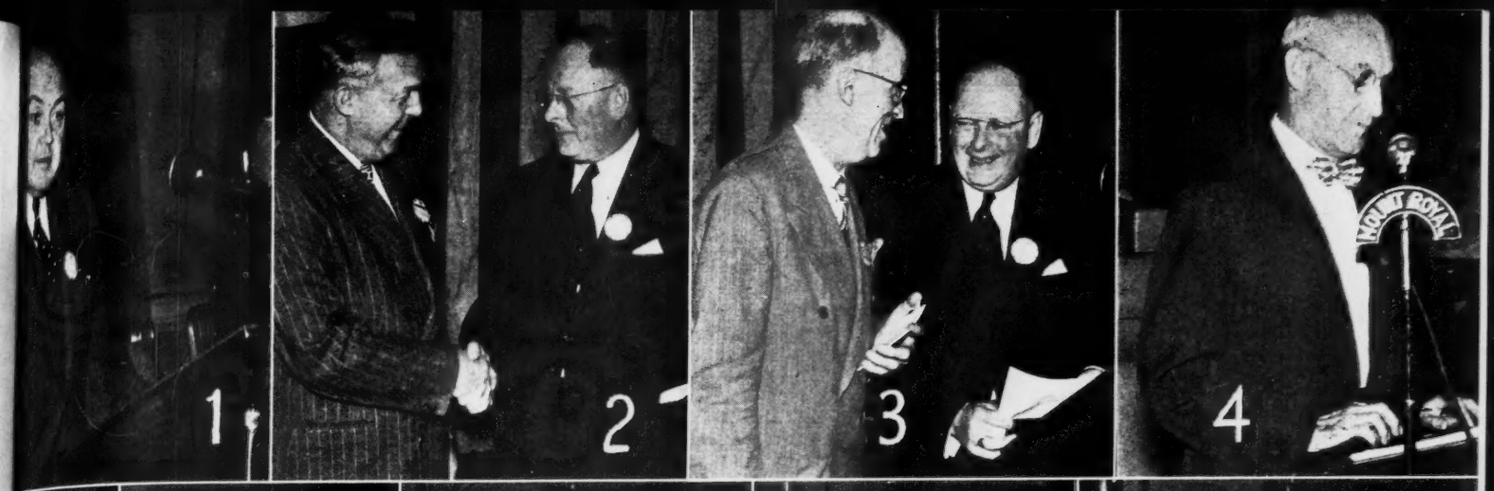
14—Edward Nymark, Production Engineer of McLean Hunter Publishing Co., Toronto, gave his audience an insight into plant personnel handling problems.

15—Ernest E. Jones, President of the Graphic Arts Corporation of Ohio, not only spoke at the Photo-Mechanical Processes Clinic but he also read the paper on *Job Training* which had been prepared by Wade E. Griswold, LTF's Executive Manager. Mr. Griswold could not be present.

16—One of the most interesting clinics of the entire convention was that on Printing Inks. Charles R. Conquergood, President of the Canada Printing Ink Co., presided.

17—A meticulously prepared paper was that presented by G. L. Erickson, Executive Vice President of Braden-Suthpin Ink Co. In the address *Printing Inks, Dopes and Troubleshooting* he enumerated and discussed many pressroom printing problems.

18—Anthony J. Math, President of Sinclair & Valentine Co., and of the National Printing Ink Research Institute, discussed printing ink from the management side of the industry.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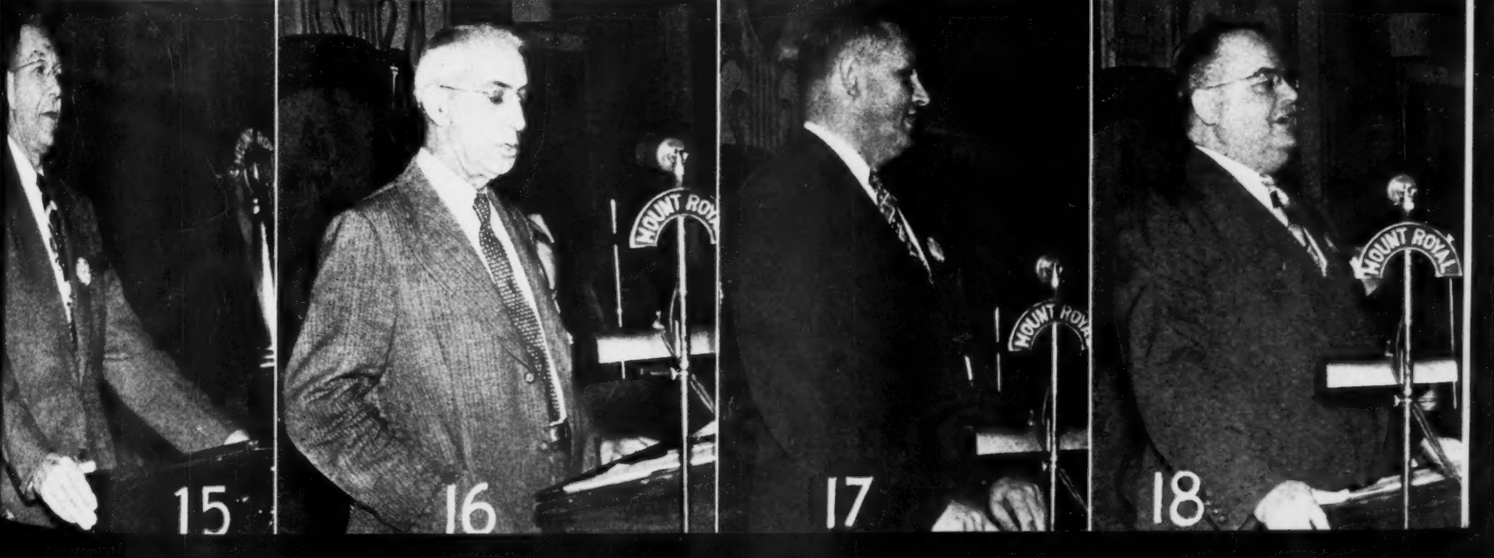
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Drying Problems with Printing Inks*

*Abstract from address delivered by G. L. Erikson, Executive Vice President, Braden-Sutphin Ink Co., Cleveland, before convention of the Intl. Association of Printing House Craftsmen, Montreal, Can., September 1946.

DRYING of ink is affected by temperature, humidity, age of the ink, amount of ink carried, pressure used when printing, condition of press and rollers, a few other variables, as well as by the paper itself and a number of paper conditions. In Offset Printing the amount of water carried and the chemicals used in the fountain solution have a definite effect on the drying of the ink.

Temperature for instance, affects the drying of all inks tremendously, the rule in our shop being about a 100 percent change in drying time for each eight degrees change in temperature. To illustrate, an ink which drys in 8 hours at 72 deg. F. will usually dry in 4 hours at 80 deg.; 2 hours at 88 deg., etc. Also down the scale it will require about 16 hours at 64 deg. or 32 hours at 56 deg. You should expect inks to dry plenty fast in the hot summer days, and yet those same inks in the cold of winter may not dry over the week-end if heat is shut off in the building.

These figures of course, will vary considerably with the different inks, papers, and other conditions, but they will give a fairly good idea of the effect of temperature on drying of ink.

Humidity affects the drying of ink in several ways. High humidity in either the atmosphere or in the stock, will generally slow the drying of conventional oil type inks. There is some evidence that paper which is too dry may slow the drying of inks, as the fibers are not as absorbent in this condition.

Moisture, however, is the agent which actually dries the new steam setting or moisture setting inks.

Inhibitors or Dryer Poisons as they may be called, are sometimes present in rollers, papers, or compounds and may cause some very mysterious slowing action on the drying of inks. There are certain organic chemical compounds which when mixed with ink in proportions as small as one-tenth of one-percent will convert a normally good drying ink into one which will not dry at all.

It doesn't take much imagination to realize how small a quantity of such impurities would be necessary to ruin the drying qualities of the ink.

Age of Ink may affect its drying qualities. A number of transparent inks such as yellow lakes, persian orange, green lake, peacock blue and blue lakes—will dry much slower as they age. Because a can of ink drys well today, that is no assurance that it will dry well next month or next week for that matter.

The usual procedure is to formulate these troublesome items so that they dry much too quickly when they are fresh, and as they age, they will dry more normally, but with longer ageing they may dry too slowly or not at all. This is one of the problems to be studied by the recently organized National Printing Ink Research Institute.

The Cure for Drying Problems is usually to add more dryer to the ink, but that would not help much if the paper is already printed. There are a few solutions to even such a situation, however. An overprint dryer may be overprinted using the same form, or if that is impossible, heat may be applied to the sheets to make them dry.

Sometimes neither of these methods are practical in which case the sheets may be run through the press without a form and a **spray dryer** used in the spray gun instead of the usual non-offset spray solution. This last method is generally very satisfactory and has saved several jobs in the writer's experience.

trade, in multiples or combinations, up to a maximum of perhaps 14 in. by 17 in. —the limit being set by the photo-engraver's facilities for etching which in turn is dependent upon the nature of the image.

In describing practical operation of a photo-composing machine, Mr. French stated: "Suppose a small label, 1⅛ in. by 2¾ in., contains a small cut or drawing, and some type matter, with a rule border, to be printed in two colors 48-up on a Gordon press. The type is set once to fit the layout, perhaps to run above, alongside and below the cut. These are not assembled, but are photographed in position by double exposure (masking in turn for each), and the border is scribed on the developed film. Each color is then blocked out successively by opaquing and a reversed positive is made of each. This positive in turn is stepped up to make the multiple negative—sometimes 24-up on each of two plates, sometimes all on one plate, depending upon the nature of the matter to be etched. On the multiple negative each label is placed by inches and thousandths to fit the layout. When the printer gets the plate he slaps it on the press and goes into production—makeready, of course, but the register is taken care of in the plate.

"If a cut has been furnished too large for the label, the type is set in corresponding oversize, and the whole is pulled down on the camera to the dimension required. The same one-time set-up and the same cut may be used for labels of various sizes, so long as the two sets of dimensions are relative, and the printing size is reached in the camera. The printed sheet may carry several images for each size, the proportion being dependent upon the number of each to be furnished. The negative is then both a multiple and a combination negative.

"Variations in copy—different labels, different sizes, circles or other shapes are to be die-cut—all these can be handled in the preparatory stages just like the job described, because the manipulation of copy and the placement of printing images are standardized by years of successful, economical production."

He discussed a number of other instances where photo-composing has served the letterpress printer. In particular he mentioned a label house which operates both letterpress and offset. There is a complete plate-making department for offset and a photo-engraving plant for letterpress. One of the pieces of equipment in the plant is a photo-composing machine. The platen of the photo-composer is modified to hold both offset and letterpress plates. For one process a straight negative is used just as it comes from the camera; for the other, the negative is reversed. The same arc lamp attachment without change is used for either process. The sensitized coating on the plates is different, of course, but both are slowly light-sensitive, and the actinic rays from the lamp converts either impartially for the finishing operations that follow.

Ernest E. Jones, President, Graphic Arts Corp. of Ohio, delivered a paper on *Photo-mechanical Developments*. The paper was well received.

Club Management

CLUB programs, designed to give local clubs of Printing House Craftsmen, and also the whole movement, favorable publicity locally and nationally were described by a number of speakers introduced by Gradie Oakes, of Chicago, Third Vice President of the International, who presided at the Monday evening's session of the convention.

Craftsman Herman W. Verseput, of Grand Rapids, described what steps had been taken last January during International Printing Education Week—to publicize various phases of the printing industry in his city. He said that newspapers, department stores, employing printers, printing schools and the Grand Rapids Club of Printing House Craftsmen co-operated by placing displays in show windows of the department stores during that week which had been officially proclaimed by the mayor of that city as "Printing Education Week." He said enlarged plans were being worked out for January 1947, which would call for the participation of the Chamber of Commerce, banks, department stores, and all branches of the printing industry. He urged other clubs to take up similar promotional activities both as a means of favorably publicizing the industry and as a means of obtaining new members to the Craftsmen's club. He reported that

Trophies Awarded

EXHIBITS of club bulletins shown in connection with the Craftsmen's convention became the objects of general attention when Lee Augustine Printing Machinery Co., announced at the concluding banquet of the convention, Wednesday night, that he had arranged to award three prizes for the winners of the 1945 contest and also three prizes for the winning publications for the year 1946. Cups were awarded to the winners as follows: for 1945: First, Montreal; Second, Chicago; Third, Minneapolis. For 1946: First, San Francisco; Second, Montreal; Third, Minneapolis.

Mr. Augustine said prizes would be awarded again for the best club publications exhibited at the 1947 convention.

as a result of last January's promotional work, 25 new members joined the Grand Rapids Club. He described how one window was devoted to an exhibit of the process of binding a book; another showed maps made of wet strength paper; other windows showed processes of making paper, 4 color process, displays of decals and labels, and how job presses were operated; while others were devoted to displays of historic scenes connected with the development of the industry.

Charlie Lee, past president of the Milwaukee-Racine Club told of the club's plan in operation by which that club is enabled to maintain a library in a room of one of the hotels for the use of members of the club. Elmer Voigt, of the Western Printing and Lithographing Company, Racine, made the beginning of the club library possible by contributing certain sums of money and stock in the company by which books were procured. The library now has 500 titles available and books may be borrowed by members for a period of thirty days. In answer to a question, he reported that in all the time that the library had been operated no book has been lost, and in most cases after the expiration time borrowers renewed the book for an extended borrowing period.

A. H. Barker, of the Montreal Club, described the method employed by the Montreal Craftsmen of having a library of printing books in the School of Graphic Arts and how panels of advisers were organized to assist fellow-members out of difficulties.

Perry Long, now of Los Angeles, first president of the International Association of Printing House Craftsmen, when introduced by Gradie Oakes, was given an ovation. The whole audience spontaneously arose and applauded him. Following the subsidence of the applause he expressed his deep appreciation because of the demonstration in his favor, then described how book auctions had been conducted in various cities. Leaders in cities in which auctions had been held were called upon to give the audience some details, whereupon, Ernie Trotter of New York, Lee Augustine of Cincinnati, Gordon Holmquist of Los Angeles, and representatives of other cities reported beneficial results from the conduct of such auctions in advertising the idea that technical books on printing should be made available to apprentices and advanced students of printing.

Mr. Long urged that all firms should maintain libraries by which employees may be encouraged to read and study books concerning the history of, and current developments in, the art and business of printing. The program concluded with a demonstration of a "book auction" in which W. H. Griffin of San Francisco was the auctioneer of a book, and O. G. Fricke of Dayton was actual buyer of a book that was bid up to $9.

During the evening's program, A. Gordon Ruiter, Second Vice President of the International, who is superintendent of Forbes Lithograph Co., Boston, gave the assembled club officers pointers on how to organize new clubs.

Paper Clinic

THE *Paper Clinic* was held in the Ball Room of the Mount Royal Hotel, Tuesday afternoon, September 10. Roy Ecclestone, general sales manager of Montreal's Rolland Paper Co., Ltd., served as chairman.

The first speaker introduced by Mr. Ecclestone was Ronald I. Drake, Trouble Shooter for Champion Paper & Fibre Co. His subject was *New Developments in Printing Papers.*

Among other special paper topics, Mr. Drake stated: "Now that the war is over, more time and manpower will be available to Champion's research organization. So far as can be seen the research department is going to devote its efforts wholly to building up the quality of the general run of printing papers.

He said paper makers have been endeavoring to keep in contact with the printing industry during the war. It seems that the new equipment which will be available will run at higher speeds in terms of impressions per hour. Papermakers know that these higher speeds impose greater printing strains on the paper. Consequently, it is going to be necessary for papermakers to meet higher tack standards. This will entail a whole new series of problems for the mills to solve, as in general, tack quality and printing quality are diametrically opposite.

It is Mr. Drake's opinion that not much change will develop in uncoated papers inasmuch as they will probably meet the requirements of the new equipment. "However," said he, "there is one point that we believe will become of major importance in the postwar period. This is the question of conditioned papers. There is no question at all but what a conditioned sheet gives better performance in the pressroom, whether letterpress or offset, regardless of whether that pressroom is wholly conditioned or not. However, when it can be preconditioned to an exact specification and it is then sent to a printing plant that is wholly conditioned—that is, having summer and winter control, then such paper will give maximum production with a minimum of waste and spoilage.'

Mr. Drake asserted: "Unquestionably, the greatest changes in printing papers will take place in the field of machine-coated two-side papers. There no longer is any doubt but that machine-coated papers are an established class or grade of papers and that as time goes on they will play an increasingly important part in supplying the demand for low-priced printing papers.

"Certainly, they will be used extensively by the large publication and catalog printer, by the commercial printer for his most competitive line of catalogs and pamphlets, and by the little job printer for almost all of his work."

In answer to a question that has been asked his organization many times as to whether there will be developed a machine-coated two-side sheet which will be suitable for offset printing, Mr. Drake said: "Right now we think the answer is 'No.' "

He said that the coated one-side papers on the whole gave very little actual printing trouble during the war years. Today the picture is radically changed. Coated one-side papers have to meet rather exacting requirements such as varnish, lacquer, gloss ink, and so on. The current shortages in the adhesive field—casein, starch, etc.—are making it exceedingly difficult and costly to produce the coated one-side grades.

"You may very well ask," said he, "whether there is any prospect of relief through the medium of the host of synthetic materials developed during the war. We can answer only that they are being thoroughly investigated but that to our current knowledge no one of them has offered a solution to the problem." Mr. Drake explained for the benefit of lithographers present that the future of coated two-side offset enamels is not too encouraging at the present time. Casein seems to be a must in this case, and with its short supply and high price, there is hardly a mill which really can afford to use it at todav's paper prices.

Printability of Paper

William R. Maull, Manager of Sales and Service, Mead Corporation, Chillicothe, O., discussed *Printability of Paper.* He started off by saying that printability of paper can be defined as that quality inherent in the paper that lends itself to a faithful reproduction. This definition applies equally well to letterpress, gravure or lithographic process.

"Large users such as magazine publishers or printers handling a large volume of repeat business are established

with printing methods, paper, ink and other supplies which have been tested out to give the quality of reproduction desired. Operations are more or less standardized. Competition in this field taxes the paper supplier, not only to perfect the quality of printability but also to maintain a uniformity from day to day also across the 40 in. to 70 in. of sheet required by the larger presses."

Mr. Maull discussed some of the points engaging the major interest of the paper maker in fabricating operations. He said it is a question of years of experience to balance printability against other characteristics of equal importance.

If maximum levelness were desired the characteristics most affected by this specification would be strengths, fold and tear. A levelness of sheet requires short fibres and fillers such as clays or other fillers.

A printing process requiring maximum levelness will be limited in the characteristics mentioned or resort to some modification of the original sheet such as coating the longer and stronger fibres with 10 or 12 lb. per ream of a clay-adhesive mixture.

Mr. Maull presented another example, by supposing that the paper requires a high degree of hardness which is termed rattle and is usually identified by a high mullen strength. It is necessary to harden the sheet either by processing or a sizing or a combination of both. These requirements detract from bulk and opacity, and in many instances must be compensated for to meet the end use.

The speaker explained that letterpress demands a paper that has sufficient bulk and cushion to minimize the time of makeready. Smoothness or levelness of the paper is selected by the fineness of screen chosen.

The first requirement for rotogravure printing is that of levelness. The important quality is determined in the paper that presents the maximum surface to the etched roll. Fineness of details depends upon taking the ink over as much of the area of the paper as the etching provides for. Bulk or cushion, the first requirement of letterpress printing, is still an important quality for gravure printing. The ability of the paper to return to its former state following the pressures applied at the instant of contact is known as "springback" to the paper technician. This secondary quality is not only important to assist printing, but to prevent wear of the engraved roll or plate.

In offset printing levelness and cushion are more often disregarded, both being somewhat compensated for by the rubber blanket. The first quality requirement for offset is strength to resist the pull of the ink and blanket.

"Of course," said Mr. Maull, "all printing processes are dependent upon the paper having those qualities designated as ink acceptance, another difficult property to measure, so more usually determined by methods of trial and error.

"The paper technician wants and needs a numerical evaluation of the printability of paper. There is active work in this score in a number of places. The most familiar is the joint work for a paper company and ink manufacturer who have used a technique to measure the value of reproductions, both for solids as well as for tones. Briefly, a photographic method is used. The plate developed serves as a reference and the degree of uniformity of the printed solids is read from the negative by using a Leeds and Northrop recording microdensitometer.

"Evaluation of the 'tone reproductions' is based on the 'ideal brightness'. This is calculated from the print and non-print areas of the printing plate and the brightness of the unprinted paper and the solid print. Deviations from the 'ideal brightness' are expressed as a numerical value. This is a long step roward the objective."

Canadian Past Presidents Participate

BOTH past-presidents of the International who are residents of Canada, namely Oliver Watson, of Toronto, and Eric O'Connor of Montreal were participants in the concluding program of the convention at the banquet Wednesday night. Mr. O'Connor installed the newly elected officers, and Mr. Watson presented the immediate past-president H. G. Bradley, and also the retiring secretary, Herbert Threlfall with medals in recognition of services rendered.

Plant Building and Modernizing Clinic

DISCUSSION was lively in the clinic covering plant building and modernization which was held Tuesday afternoon with Charles W. Pitkin, formerly professor of printing at the Carnegie Institute of Technology, but now doing development and planning for Doubleday & Co., presiding.

Papers were read by Robert W. Dickerson, architect and engineer, from Cleveland, whose subject was *Printing Plant Building*; and by A. C. Arnesen, for 20 years with American Type Founder's engineering department, who spoke on *Plant Modernizing*.

Mr. Dickerson said many printers and publishers are at the cross-roads, and must make decisions, whether to attempt modernization of their old plants, or expand them, or replace them with new construction.

The size of the audience was indicative to the leaders that the subject under discussion was one which brought many printing plant executives to the convention. Further evidence of this observation was that quite a number of executives made many notes.

Subsequent to the presentation of the ideas of the two speakers, the interests of the men in the audience were indicated by their questions and comments to include everything from the color of the walls to the nature of the lights, and all other factors in between. It was of special interest to observers that many things had to be taken into consideration in either housing a new plant or arranging to modernize an old establishment.

Mr. Dickerson defined a printing plant as the physical equipment, including building, that is required in the production of its products. He defined the functions of the building "to house, support and serve the operations and processes by which these products are manufactured." He then proceeded, step by step, to define other functions and differentiated between the needs of a newspaper plant and a commercial printing plant.

"In the initial steps, planning must be on the most broad and sketchy basis," said Mr. Dickerson. "Drawings and studies during this stage are little more than space diagrams in which the approximate space requirements of each department are studied in relation to each other and to the overall space available. The movement of the work through the plant is kept constantly in mind, and planning usually begins with the largest and least adaptible units. Frequently it is the pressroom where the amount and shape of space is more or less dictated by the nature of equipment. If it is in the pressroom, space is first tentatively established by the work-flow to and from the pressroom, to the bindery, to the shipping and delivery rooms. The work-flow to the pressroom from preceding processes is then worked out and tested. In many instances we find ourselves actually working 'up-stream' of the work-flow —planning in direct reverse of the work movement. After an over-all plan has been developed which appears to provide a logical work-flow and ample facilities for all operations, we are ready to undertake the detail planning of the several departments."

Mr. Dickerson then referred to the use of templets and other items, to make the planning of practical value, then warned prospective builders that the labor shortage was just as keen in the professional ranks of architects and engineers as in the printing business that any man or concern who holds the idea that a rush job can be done will have a rude awakening.

Mr. Arnesen of American Type Founders, in his presentation said that manufacturing management must consider six factors in relation to each other in order to achieve success in the printing business. He named the six as housing, personnel; control and scheduling; a cost system; equipment and its proper arrangement; and output from equipment. He then elaborated upon each of the six factors and indicated how they are interdependent and must be linked

together to make "a well-forged production chain."

"The six factors must be taken into consideration simultaneously," suggested Mr. Arnesen. "Good craftsmen in the composing room and pressroom can not overcome the hindrances of slow, obsolete equipment. On the other hand, modern equipment, especially in the composing room, if illogically and poorly arranged on the floor, partially destroys the efficiency of such equipment. If we don't use a good cost system, how can we tell where the weak spots are so that some remedial action may be taken?

"If we feel that a re-arrangement of our plant is desirable to lop off some very apparent excessive costs it will pay us to investigate all the other production factors as well."

Mr. Arnesen expressed the opinion that one of the best aids in helping the printer to make a decision in the selection of new or replacement equipment is the study of standard costs. He suggested that the management of a printing establishment study the costs as supplied by organizations on a composite basis and then apply them to the local production problems.

"The three most important facts that can be deduced from a comparative cost study which influence equipment decisions are increase in profit dollars per year; increase in annual profit in percentage; time - saving in production which can be utilized for increased production; period of time required to pay for the replacement machine through increased profits."

Things to avoid were listed by Mr. Arnesen when printers are inspecting a building as a possible location for his plant. Here is what he said in that connection:

"First we should avoid choosing a building where the rooms are excessively cut up by stair wells, elevators, offices, and other projections into the room unless we are in a position to correct this condition with reasonable expense. Effective floor space is lost where rooms are all cut up by projections. If it is necessary to resort to less desirable space it would be very helpful if objectionable features are removed entirely or at least changed for better convenience. If necessary, employ the services of an architect whose services will be a good investment in the long run."

The speaker said that ventilation, heating and sanitary facilities are factors affecting health and must be given proper attention. Consideration of these factors will keep down absenteeism. He also gave a warning concerning elevators which should be of sufficient capacity; of loading docks, which must be accessible to auto trucks so that stock-handling will not become a major problem; and he also indicated that floor load was an important item to consider.

The speaker suggested the idea that any management in the printing or allied business should obtain data of a reliable character on plant layout which include sources available in the form of books and text books on industrial engineering although they may not be written specifically to apply to printing plants. He also suggested that "the printing trade journals give reliable technical information from time to time on various phases of plant layout."

"If you undertake to make a layout for the first time, don't be dismayed if you don't get the answer after a couple of attempts," concluded Mr. Arnesen. "It may take quite a few trials to reach a satisfactory conclusion. I might mention that large plants may require ten or more layouts before the proper one comes along. I like to conclude any discussion or presentation on the subject of plant layout with a true story of one of the leading industrial engineers who was working on a very large manufacturing plant layout who said he made thirty-four alternate layouts before arriving at the one and only simple arrangement that met all requirements in every respect."

Following the conclusion of the presentation by the two engineers, Chairman Pitkin called upon different men in the audience to give talks who are or had been grappling with problems associated with the erection of new plants or the changeover of old establi hments. He called upon Gradie Oakes, of Chicago, who operates a plastic plate manufacturing plant in addition to a photo-engraving business.

"The engineer who made only thirty-four layouts of a plant was a piker in comparison with our own experience," said Mr. Oakes. "We played around with a miniature model of a three story building and with furniture and equipment build-down to scale, and rearranged it in all sorts of forms like checkers on a board to determine how it looked in different relationships."

He mentioned that his proposed building project in Chicago had to be postponed because of the various restrictions placed upon construction work by the Government and by shortage of materials.

Alex Alberg, of Kansas City, who is general manager of the Unity Publishing House in that city referred to the new structure which will be completed April 1, which with new equipment will be a $500,000 project. He described it as a one-story structure, supported by steel girders with no visible pillars, thus providing for the maximum of clear space aggregating 150,000 square feet of floor space; with a humidity control system; coloring mixed with the cement for the outside walls; glass brick windows; insulated walls and roof; and a plan of work-flow which begins in the center of the building where copy is to be handled and the work flowing through the structure. He said that the ventilation is such that there will be a complete change of air in the entire structure every thirteen minutes.

In response to a question from the floor, Mr. Dickerson discussed the use of color in printing plants. "Side walls," he said, "could be painted a light green-similar to the lightest green on a $1 bill. This color comes pretty close to an ideal light reflecting factor.

Al H. Barker, President, The Regal Press, Montreal, immediately following some discussion about the value of fluorescent lights in the plant stated that he installed them six years ago. In his plant, new employees are informed that the company wants to maintain a clean plant. They are expected to keep the plant in the same manner that they keep their homes. He also related that he keeps a list of the birthdays of all employees. Upon the day when one or more empoyees have birthdays, the plant is shut down at 3 o'clock in the afternoon for a party. "The foundation of a plant is cleanliness," he asserted, "and fluorescent lighting system will work excellently if you have clean employees."

Mr. Dickerson also recommended that cold cathode lighting should be investigated by executives planning lighting installations. This lighting has a splendid maintenance and efficiency record.

In response to a question from the floor, Mr. Dickerson stated he is somewhat partial to iron-bound wood block floor. The wood is cut edgewise (not end grain) in blocks approx. 12 in. square and 2 in. thick. The blocks are laid over a bituminous coated cement base. It makes a foot-comfortable floor and there is no rocking motion in the blocks.

John McLean, superintendent of the plate-making department of the Government Printing Office in Washington, D. C., reported on some of the problems which the designers of the new GPO structure encountered several years ago, and how they had overcome them. He remarked that the designers had made an allowance of 20 per cent of space for possible expansion. This provision was of great value when the flood of war orders engulfed the GPO.

He warned the men who are planning new structures that frequently, the practical men within the plant might not agree with engineers or architects that are brought in from the outside, but that with patience and co-operation manifested by the men co-operating, better results can be obtained by their joint efforts than if either the engineers or the inside executives tried to do the job alone.

Proofroom designs; color to use in painting machines, floors and walls; lighting devices and how placed; and numerous other questions were raised by men in the audience, and answered either by the guest speakers, or by other men in the audience. Following the conclusion of the clinic, comments were generally exchanged that the clinic had been one of the most helpful ever conducted at a Craftsmen's convention.

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Job Analysis and Training Clinic

DOES a knowledge of music help a pressmen do a better job in his work of running a printing press?

That was one of the questions raised at the clinic on Job Analysis and Training Clinic at the International Craftsmen's convention at the Wednesday session. Edward Nymark, a member of the Toronto Club, connected with the McLean-Hunter Co., made the statement that an ear for music is helpful to a pressman or machine "tender" in distinguishing sounds and that that ability will enable him to hear quickly when and where a machine needs lubrication or otherwise needs attention.

Mr. Nymark's talk was in line with factors that helped personnel men determine whether a man had qualities that would fit him for one or another of the jobs in a modern printing plant, or in the mechanical department of a newspaper organization.

In the case of a linotype operator, has the man flexible fingers? Is his hearing good? As a pressman or a machine "tender" his quickness to distinguish sounds will mean that the man at the machine will be quicker to learn of trouble than the man who is dull of hearing, and if he is a musical man it will be still better for him to be on the job.

How is his eyesight? If tests show that he has poor vision, there are some jobs that he should not have. If he is color-blind he should not be assigned to work on the presses where distinctness of color differences and shades are of vital importance.

What is a man's consideration for his fellow-employee? Is he thinking about his fellow-employee when he disregards rules about keeping aisles clear of obstructions? If he does not he is an accident hazard.

Mr. Nymark in his talk indicated that the foreman or personnel man in a plant had many things to consider in modern operation of a plant that were related to the capacity of an employee to do certain operations and that health and alertness affected not only his efficiency but the safety of others in the organization.

Wade E. Griswold, executive director of the Lithographic Technical Foundation, New York, was to have given an address on *Job Training* but he was unable to be present, the chairman of the clinic, Allan Robinson of Baltimore, announced. Mr. Robinson introduced Ernest E. Jones, president of the Graphic Arts Corporation of Ohio, who had been previously requested to read Mr. Griswold's address. In the paper Mr. Griswold stated that obstacles to good job training in the lithographic branch are due principally to lack of understanding of the need for education on the part of employees; unwillingness to work hard to make an educational program succeed; lack of co-operation and support and patience on the part of both employers and employees; and failure to realize that technical training pays big dividends to both employees and employers. He urged that in the lithographic industry, the employers should organize schools in the leading graphic arts centers like the school in New York and the new Chicago Lithographic Institute.

During the discussion period, the question was raised as to where responsibility should be placed in the Graphic Arts for recruitment and training of apprentices to take the place of the aging men who are now in positions requiring skill. Various comments were made from the floor. One man reported that in his plant he had difficulty attracting young men to the production departments because boys wanted white collar jobs. He said that school teachers were probably responsible for such a condition.

Chairman Robinson who is principal of the Mergenthaler Vocational High School of Printing in Baltimore, said that organized training could be done in similar schools in various printing centers. He suggested that Craftsmen's clubs should pay more attention to the subject of recruitment and training of apprentices in the Graphic Arts, and that more vocational schools could be organized in various parts of the country by which the training of apprentices in the industry could be advanced.

A. H. Barker, of Montreal, who is chairman of the Graphic Arts school in that city explained the system under which that institution operated and in which so many students are enlisting that the school must expand its facilities so that the number of students and trainees may be increased.

Chairman Robinson then called upon Mr. Jones to answer the question asked by one of the men in the audience concerning who is to blame for the lack of apprentices in the printing industry in the United States.

"I am sorry it is necessary for me to say that my experience and observation leads me to the conviction that ninety per cent of all the blame must be placed upon management," said Mr. Jones. "You who are superintendents in printing plants are also responsible. When you as an employer want a skilled man you don't think of your responsibility to train one but you want one already trained. You are willing to take the man that the other man trained. Figures indicate that it costs management about $2000 to train a skilled man, and management does not want to pay the price. My opinion is that the employers will have to get rid of their selfish attitude or suffer the consequences of increasing shortage of skilled personnel all along the line. The average age in the photo-engraving business is about 55 years, and other trades are almost the same in average age of skilled men. Unless something is done to lower the average age, it will not be long before a greater crisis must be faced in the industry than is now being faced in many of the printing centers of the United States."

During the discussion it was reported that the Canadian Government was taking an official interest in the training of skilled workmen in the various printing centers. The report indicated, however, that one of the obstacles which prevented greater progress in the training scheme of the Canadian Government was its inability to establish connecting links between the training schools through a printing council, and managements of printing plants.

Several of the speakers expressed it as their opinion that the recruitment and training of young men and women for the various positions in the printing industry was the biggest problem of the entire business, and should receive major attention from employers, Clubs of Printing House Craftsmen and from unions, besides the general and local Governments in the two countries represented in the convention.

Printing Ink Clinic

CHARLES CONQUERGOOD, President of Canada Printing Ink Co., Toronto, was chairman of the Printing Ink Clinic. Mr. Conquergood introduced the first speaker, G. L. Erikson, Technical Director (more recently made vice president) of The Braden-Sutphin Ink Co., of Cleveland.

Mr. Erikson delivered a paper upon the subject of *Printing Inks, Dopes and Trouble Shooting*. The paper was divided into several sections under the headings: Drying Problems, Offset and Sheet Sticking, Mottling, Filling of Screens, Caking on Plates, Trapping, Overprinting Problems, Color Matching Problems, Permanency of Inks, Bleeding, Colors Changing in Center of Sheet, Flying or Spraying, and Miscellaneous Problems.

Mr. Erikson's address showed careful and meticulous preparation and was one upon which a great deal of preparatory time has been spent. Chairman Conquergood complimented Mr. Erikson highly upon the thoroughness with which the paper had been prepared.

All of Mr. Erikson's address will be printed in *Printing Equipment Engineer* from time to time as space permits.

Progress in Ink Making

Progress in Ink Making was the subject of an address delivered by Anthony Math, President of Sinclair and Valentine Co. His address was delivered from the viewpoint of the manufacturer. Mr. Math reviewed briefly the major developments in the ink industry within the past 40 years. He said that sometimes ink is the most important element in making a new printing process successful. During the past 25 years, developments in ink manufacture have been extensive. Stronger, cleaner and more permanent colors have been achieved. American patents have had a great deal to do with the success of multi-color offset printing. For instance, four-color process printing is now being done which is the equivalent of the work which formerly was done in six or eight impressions.

The spray gun has made it possible to print gloss inks better and more rapidly and also place them in lifts of 1000 sheets without sticking.

During the past 10 years emphasis has been placed on equipment from which it is possible to produce work at higher speeds. Ink makers have been equal to the task.

In some cases ink makers have introduced new processes. He referred to heat-set inks which were developed by ink makers in cooperation with large printers and publishers.

Mr. Math discussed research in the Graphic Arts and referred to the several groups in the industry which are now conducting research programs. Among them is the Printing Ink Research Institute. This activity was started with a small group at first. Major printing ink manufacturers now are members. There are at least 500 chemists in member plants in addition to color matchers and technicians. The PIRI was organized to cooperate with other groups in the Graphic Arts Industries.

A ten-point program was outlined by the speaker as follows: (1) Fundamental research in new types of printing inks. He said new types of inks do not appear more often than once in five or ten years. One of the latest of these is Wink-Dri. This he classed as a radical development. (2) Study physical properties. (3) Study of surfaces on which printing is to be done, on such materials as fibre glass and fabrics of all kinds. (4) Investigation of new materials for making printing inks. He mentioned titanium dioxide as an example. Also, to illustrate, he mentioned that ink makers lean on the manufacturers of resins. The ink maker tells the resin manufacturer the type of solvent he wishes to use for an ink for a certain purpose. He stated it is wiser for the ink maker to go to the resin manufacturer and have the problem worked out for him. (5) Establish special testing procedures for raw materials. (6) Develop instruments for testing inks. (7) Investigation and development of equipment for manufacturing ink. (8) He said it was the intention of PIRI to request makers of equipment to test new machines under their auspices. (9) Correlation of research with other groups in the Graphic Arts and to work with them on new developments. For instance, with paper manufacturers who have produced a paper with a new surface. (10) Establish a library containing literature related to ink and all branches of the Graphic Arts.

Mr. Math again mentioned the emphasis which has been made with respect to speed in the manufacture of new equipment. He said one printer is spending a million dollars a year on equipment, plates and other elements of the business to increase production speeds. Ink makers can now make ink dry on the web at speeds of 2000 ft. p.m. but the press for printing at this speed has not yet been manufactured. The real problem in rotary letterpress printing is that plates do not stay in close contact with the cylinder at high speeds as they lift slightly from the cylinder at high speeds. Rotogravure and offset, of course, do not have this problem.

The major aim of the printing ink manufacturing industry is to make ink that will dry instantly without special equipment. He also said it is hoped the industry will produce an ink in the not-too-far-distant future which will dry at 700 deg. temperature instead of the 1400 deg. temperature now required in quick-drying apparatus on rotary presses.

Purchases

Canton (O.) Plant

BABCOCK Printing Press Corp., recently purchased the plant of the Dayton Malleable Iron Co. in Canton, O. The entire property was transferred to the new ownership. It is expected that during peak operation 1200 men will be employed. Rotary magazine multi-color, multi-color rotogravure, flatbed and cutting and creasing presses and other printing equipment will be manufactured.

In the Canton plant, additional machinery is being installed and it was expected at the time this item was written, that operations would begin early this fall. However, operations will also continue at the New London (Conn.) plant which maintains a normal force of 800 people.

It was stated that the Canton plant is a permanent addition to the Babcock operations, expansion being necessary to take care of a three-year backlog of orders for high-speed printing presses and other printing equipment. Peak production in Canton will be reached early this coming year.

New Miehle Service Dealer

Miehle Printing Press & Mfg. Co., Chicago, announces the appointment of Kilpatrick Printers Service Co., 182 Forsyth St., S. W., Atlanta 3, Ga., as authorized Miehle Service Dealer for Georgia, South Carolina, Florida, Alabama, Mississippi, and Tennessee. Kilpatrick Printers Service Co., will erect new presses and handle service and repair work in the area. Repair parts will be carried in stock to provide quickest possible service to printers. In emergencies, printers may call CHerokee 8897, Atlanta, for prompt service.

Interesting Catalog

Ideal Industries, Inc., has published a 24 page catalog, 8½ in. by 11 in. size, well illustrated, printed in black and blue ink throughout. In the catalog are described E-Z mark etcher, pneumatic drill, pneumatic screwdriver, rotary file and die grinder, multi-duty live center, tool and machine shop etchers, universal lathe chucks granite surface plates, grinding wheel dressers, magnetic chucks and demagnatizers, and electric tachometers. Copy is yours for the asking from the above-named company or through *Printing Equipment Engineer*.

Officers of New Wichita (Kas.) Craftman's Club—On July 1, Harry F. Humphrey, Eight District Representative of the International Association of Printing House Craftsmen, presented the Wichita Club with its charter. A total of 43 printing executives signed the charter.

In the above illustration, (front row, left to right), Wichita Craftsmen are identified as follows: G. W. Myerly, President; Claude Guthrie, Second Vice President; W. E. Webb, Secretary-Treasurer. (Rear row, left to right): W. J. Van Wormer, member of the club, who was a guest speaker at the Omaha Eighth District meeting; the next three are Ben Edwards, Gifford Booth and John Horner, members of the Board of Governors; at extreme right in back row is Harry F. Humphrey, Eight District Representative. First Vice President Alden E. Dinsmore was not present when this picture was taken.

Parade of Speakers

discusses scientific research, equipment and new developments in newspaper printing industry — Heavy-weight ANPA Mechanical Conference program packed with technological information

WHILE the official registration figures for the ANPA Mechanical Conference was 832 (according to Manager W. E. Wines of the ANPA Mechanical Dept.) approximately 900 people were in attendance. The 1946 conference was held in Hotel William Penn in Pittsburgh on Monday, Tuesday and Wednesday, August 5, 6 and 7. The conference exhibits were resumed this year. A total of 31 companies occupied 50 booths in a space reserved for that purpose adjacent to the ballroom where the main conference sessions were held. No doubt one of the reasons more manufacturers were not represented in the display space available to them is that many manufacturers do not have equipment ready to present to their buyers. Another deterring element is that some manufacturers have not been able to obtain the necessary materials, such as steel, cast iron products and electrical equipment.

The formal opening of the conference occurred on Monday morning, August 5, at 10 o'clock. Worth C. Coutney, Business Manager of the Chicago *Herald-American*, and Chairman of the ANPA Mechanical Committee, presided. Mr. Coutney introduced Edward T. Leech, Editor of the Pittsburgh *Press*, who gave the address of welcome. Immediately following Mr. Leech's remarks, David W. Howe, Vice President of the American Newspaper Publishers Association and business manager of the Burlington (Vt.) *Free Press*, after extending cordial welcome from the ANPA, asserted that a program of coordinated research is ahead of us and it must be undertaken on our own initiative.

All of the mechanical and production executives present were pleased and encouraged by Chairman Coutney's opening remarks which showed a distinctly aggressive and militant attitude upon the part of the ANPA Mechanical Department. He declared that the ANPA Conference is destined to occupy a more important place in the newspaper technological picture than ever before.

Continuing, he said, "We see evidence of the fact that because of your continued interest in the Mechanical Department of the American Newspapers Publishers Association, our organization is in a stronger position to be of service to member newspapers than at any time during its existence".

With respect to the regional mechanical conferences, he stated: "Your mechanical committee has been fully aware of the growth of regional mechanical meetings during the past few years. We recognize that great good has resulted from these regional meetings and that attendance records have been high. Everyone with whom we talk is enthusiastic about the good they get out of these regional mechanical meetings.

"We encourage the formation of regional groups, and on behalf of the Mechanical Committee of the ANPA, I want you to know that if we can be of assistance at any time to you who are responsible for the organizing or for the program arrangement of any of the regional meetings, please let us know. We are ready and willing to do everything we can to further the continued success of such meetings throughout the country.

"We believe that the field of research and the approach to the technical phases of the newspaper publishing business through the annual ANPA Mechanical Conference is the most important contribution of the Mechanical Committee."

Planning Newspaper Plant

Continuing the style of conference program as initiated at the Cleveland 1944 conference, the meeting got under way when Mr. Coutney introduced Robert W. Dickerson, Newspaper Architect and Engineer of Cleveland, Ohio. The subject of Mr. Dickerson's talk was "Planning A Newspaper Plant".

Mr. Dickerson's address was a general discussion of the title of his talk. In discussing plant planning problems, he said he recognized three more or less distinct classifications of groups. (1) Those that call for new buildings, (2) Those whose plants lend themselves to modernization and/or expansion and (3) those who are still uncertain as to whether their problems can be solved by improving their present plants or whether they should be replaced with new construction.

He stressed the necessity for interplant executive cooperation by stating that "Obviously, the planning of a newspaper plant requires overall direction and coordination; a 'supreme commander' or a board of strategy. Otherwise, we might end up with a lot of ideally planned departments individually, without the necessary workable relationship between them; the situation roughly comparable to a ballteam of stars, each playing his own game.

"A peculiarity of newspaper planning", said Mr. Dickerson, "usually begins with the largest and least adaptable units—usually the pressroom in a large

Gremlins Did It

THE editor of *Printing Equipment Engineer* insists Gremlins do exist. After taking a number of pictures at the ANPA Mechanical Conference in Pittsburgh the photo finisher wanted to know why unexposed film packs had been sent to him for processing. It seems that the focal plane shutter lever slipped a notch in Pittsburgh thus interposing the shutter curtain between the between-the-lens shutter and the film. Now it appears that two shutters are just one shutter too many sometimes — for some people. Especially if you don't check to see if one is properly inoperative. My, my, such a waste of film, flash bulbs, the time of P-Double-E's staff, and the time of the subjects. Anyhow, we have tried to make amends by presenting a good conference story herewith.

plant. If the press equipment is of the unit type, with allowance for expansion, some rigid requirements are imposed both as to amount and shape of space. Along with the actual space required for the presses comes consideration of newsprint storage and handling, as well as the mailing room and facilities for getting the printed papers away from the plant. Ahead of the pressroom, of course, comes the stereotype department and the composing room and the departments in which the work is originated. Actually, we find ourselves planning the plant almost in reverse of the work-flow movement."

He cautioned his hearers against frozen areas in plant planning by saying that to the greatest degree practicable, use should be made of standard removable unit partitions. Their salvage and reuse value is very high and they can be removed and relocated overnight. They contribute much to plant flexibility.

Because service demands vary widely from one department to another, Mr. Dickerson declared, "There can be no one best floor material nor best wall material for a newspaper plant".

With respect to employee comfort conditions in the printing plant, he said, "Adequate ventilation and air conditioning are no longer luxury items but contribute directly to profitable operation. No one can afford to ignore them or to minimize their importance. Aside from any humanitarian urge to make folks comfortable, or regard for scientific data which points to its economic desirability, so many plants have been equipped for comfortable occupancy that the executive who tries to get along without it will find labor turnover troubles multiplied manyfold. They'll go where it's comfortable, and a man with a comfortable plant will soon have the pick of the town."

Exhibitors and Their Representatives in Attendance at Pittsburgh ANPA Mechanical Conference

The following companies maintained exhibits at the recent ANPA Newspaper Mechanical Conference in Pittsburgh. Immediately following the exhibitors' names are listed the executives and representatives in attendance.

American Type Founders, Inc.—A. C. Arnesen and Arthur R. Bink.
Atlantic Zinc Works—Frank Bonner, W. Roy Manny and A. S. Rees.
Samuel Bingham's Son Mfg. Co.—M. M. Caldwell, Don E. Crews, L. A. Schaeffer, George F. Thomas and Robert F. Waugh.
Serge A. Birn—S. A. Birn, H. C. Orr and H. E. Runion.
Albert R. Bourges Service—Albert R. Bourges and Jean Bourges Mayfield.
Chemco Photoproducts Co.—Sam Anson, M. J. Gates, C. H. Larsson and H. K. Marshall.
Consolidated Photo Engravers Equipment Co.—Ben Sugarman.
The Dayton Rubber Mfg. Co.—T. M. Dolan.
The DoAll Co.
Dornbrock Circular Cutting Machine Co.—Wm. Dornbrock, W. H. Kronberg and David Safran.
Eastman Kodak Co.—A. V. Christman, Victor Hurst, J. W. Lemen, John McMaster and W. N. Rutherford.
The Elwell-Parker Electric Co.—R. M. Gamertsfelder and W. A. Meddick.
Hi-Speed Roller Co., Inc.—H. D. L. Breen.
Imperial Type Metal Co.—V. L. Kirkland, Robert Knappage, W. C. Otter, W. H. Pollock, W. J. Prentice, Clarence Seaman and Grant Wilber.
C. M. Kemp Mfg. Co.—R. L. Hill, P. W. Muller and W. J. Traxl.
Lake Erie Engineering Corp.—Charles S. Davis, Jr. and J. V. Landau.
Linotype Parts Co.—E. Bendow, Homer E. Dunn, Charles L. Lawrence and Everett C. Miller.
Ludlow Typograph Co.—O. W. Asbell, Fred H. Dunham, Charles E. Gardner, L. J. Garland, John O. King, John I. Moore, W. F. Mulcahy, Oran C. Smith and Clay A. Wellman.
Mark Specialties Co.—Mark Kirstein.
Matrix Contrast Corp.—Jack Faris, Gerald W. Hunter, Willis C. Hunter and Charles H. Stout.
The Monomelt Co., Inc.—Fred J. Sandman, L. W. Sloane and W. H. F. Thompson.
The Morrison Co.—E. H. Arpe and George Morrison.
Harold M. Pitman Co.—Al Meyer.
Printing Equipment Engineer.
Reilly Electrotype Co.—L. M. Brownell, jr., F. J. Neubert and Edward H. Reilly.
J. A. Richards Co.—George Dommasch and Paul A. Richards.
Sta-Hi-Corp.—Craig C. Baker and A. W. Cochran.
Stereotex Machinery Co.—Charles Fritschi.
Tingue, Brown & Co.—R. H. Dunham, Parker Hart and D. A. Robbins.
Vandercook & Sons, Inc.—Ray G. Bogdan and O. F. Duensing.
Wood Newspaper Machinery Corp.—Anthony H. Miller, E. A. Rehm, P. L. Tollison and I. Tornberg.

Printing Ink Research

"Printing Ink Research" was the title of the talk presented by I. M. Bernstein, Director of the recently organized National Printing Ink Research Institute at Lehigh University. He discussed the possibility of cooperation between the proposed research program to be sponsored by the ANPA and the research organization of which he is director, which has been set up by printing ink manufacturers.

Among the various types of inks suitable for publication printing is the steam or vapor-set ink[1] which, of necessity, prints typographically. He stated that the new steam-set ink is based on a novel and somewhat paradoxical conception of drying by steam. This ink has been in use for a number of years for printing food wrappers and other related products.

Said he, "This ink sets by precipitation or throw-out of the resin from the vehicle of the ink, due to its insolubility in an excessive steam. The deposited resin, together with the pigment, constitutes a practically dry ink film, which is the result of this throw-out. Since the setting or drying of the ink is very rapid, it would, to a very great extent, tend to eliminate the possibility of first impression offset as well as strike-through.

"There have been some interesting trial runs at press speeds equivalent to 35,000 copies per hour, in which the printing was of good quality. Whether the engineering difficulties of steam application will allow the stepping up of press speeds to 50,000 or 60,000 copies per hour, without diminishing the quality of the halftones, and whether at these increased press speeds, the ink stability can be maintained, are questions that still remain to be answered."

As an impartial observer, he stated that there is one more hurdle which must be cleared. It is whether color register can be maintained by printing the steam-set inks in view of the conditions of high humidity. The importance of this point rests in the immediate future, with the probability of the greater use of color reproduction in the newspaper field.

Mr. Bernstein discussed "cold-set" inks, which were announced a number of years ago by an eastern ink manufacturer.[2] This is the ink which, when printed from a hot form, immediately

[1]General Printing Ink Corp.

[2]J. M. Huber, Inc.

sets by solidification on coming in contact with a relatively cool surface of the web.

He asserted, "It is possible that this type of ink may again be available in improved form as a result of recent research. But here again engineering problems are present with regard to maintaining adequate printing form temperature and provisions for hot storage of the ink".

Rockefeller on ANPA Research

The next speaker was John W. Rockefeller, jr., New York printing engineer. Mr. Rockefeller spoke on the subject "Research As Applied to Newspaper Production".

"In the printing industry", said he, "over the past 35 years, we have produced some remarkable results in color reproduction and in general printing effects with paper and ink for the advertiser. But we have not done this at the speeds at which modern newspaper machinery operates."

Mr. Rockefeller asserted that the general object of research in the newspaper printing and publishing industry appears to be the attainment of printing quality already realized in other fields of printing, but at speeds of 30,000 to 40,000 imprints an hour. Perhaps printing quality will be gained through the refinement and advance in present day methods; that is, through improvement in presses, ink, paper, press blanket, etc., or it may be that it will be reached through some brand new means.

He continued, "Whether high grade printing comparable to that produced in weekly and monthly magazines can be obtained at a reasonable cost on present newspaper equipment or not, suggests itself as one of the first problems for research.

"The commercial printer has produced at a high cost and at low speed what the newspaper publisher wishes to accomplish at a lower cost and at infinitely higher rates of production. The commercial printers are your proving grounds in this sense. If, for example, we could produce at 20,000 impressions per hour and at a cost for materials not exceeding those established for newspapers today, printing equal to four-color process, offset or gravure work such as appear in our better publications, so that the newspapers could compete successfully with these publications in the advertising field, I believe that every newspaper publisher represented in this meeting would be more than satisfied".

First Impression Offset

Mr. Rockefeller reported that in a recent questionnaire which was sent to the newspaper printing industry, as well as personal interviews with a number of publishers, indicated that if there was one specific problem requiring early solution, it was that of first impression offset.

Mr. Rockefeller also reported that a recommendation will be made early next year as to the major projects which the newspaper printing industry itself should undertake in fundamental research.

Continuing his discussion with respect to first impression offset, he stated it should be possible to tell by the elimination of one factor after another which departure from general newspaper practice is responsible for the elimination of first impression offset. If the answer lies in the ink, the problem could be posed to the ink maker. If it is a matter of press blanket or cylinder packing, this matter could be turned over to the blanket manufacturers as a problem for research.

It appears from Mr. Rockefeller's discussion that the undertaking of studies on problems would be to analyze the differences between the means used in producing newspapers and the means used in producing high grade printing by letterpress, gravure or offset, to break down these differences to a point where they may be turned into research problems for the ink makers or the paper makers, or for the manufacturers of blankets or presses.

First Impression Newspaper Printing

ANOTHER attempt to eliminate offset in newspaper first impression printing was reported upon by Auburn Taylor at the Pittsburgh ANPA Mechanical Conference. Mr. Taylor is pressroom superintendent of the Charleston (W. Va.) *Gazette*. He is the inventor of a number of devices for improving newspaper printing, among which are a portable color fountain, constant ink feed, color streaking device, and more lately development of a water-base ink for eliminating first impression offset.

Mr. Taylor reported that he had experimented with an "ironing or blotting" principle in attempting to produce good first impression without offset. What he did was to dress one plate cylinder of a press unit with dummy plates; the accompanying blanket cylinder was dressed with newsprint. Immediately the printed first impression web was passed between the two cylinders in an attempt to blot the first impression ink before the web entered the second impression cylinder.

Mr. Taylor reported: "It didn't work. The immediate effect was that the blotting cylinder thickened the dots in halftones." He also reported experimenting with magnetic devices but failed to obtain results.

Typography, Type Readability and the Offset Process as Applied To Newspaper Printing

ON Monday, August 5 at 2 o'clock, Edwin H. Evers, Production Manager of the St. Louis *Globe Democrat*, opened the meeting as honorary chairman. He then introduced Charles M. Wolf, whom he said would serve as chairman for the meeting. Mr. Wolf is Mechanical Superintendent of the Pittsburgh *Press*. A nationally-known typographer, Edwin H. Stuart, President of Edwin H. Stuart, Inc., Pittsburgh, addressed the audience on the subject, "Good Typography Sells Space".

We present a number of the pithy comments made by Mr. Stuart during his rapid-fire address.

It is destructive to the morale of any compositor to have to hunt materials with which to do his composition or assembly work. Typesetting means the assembling of a lot of little metal units. Therefore, every precaution should be taken to minimize walking time of the compositor in order to secure the material he needs to complete the composition upon which he is working.

He advised the paying of an apprentice boy $30 to $35 a week to distribute material. He said he would not pay a journeyman $65 to $75 a week for doing this work.

Advertising is salesmanship in print. Stuart declared he knew nothing about art or copy preparation but he did know typography. Typography is intended to create attraction, interest, desire, action, and most of all, *readability*.

Caps and lower case should be used for long lines, and if caps are used, they should be employed only for short lines. The longest line in display composition should not be over 1½ times the length of the lower case alphabet or to the extent of a 39 character limit. By all means avoid masses of crowded display. Watch break lines and divide words properly. Attention should be paid to shape harmony by utilizing certain standard shapes such as pyramids and the like. In all cases, use appropriate type faces—that is, the right type for the commodity being advertised.

In the handling of long and short copy, there is no set rule for the typographer to follow. All composition should be balanced, particularly in the case of a "black" cut at one side by having suitable weight of type face on the other side of the advertisement. "In order to preserve tone harmony", said Mr. Stuart, "don't put hairline borders around black type—the pig pen won't hold in the pigs".

He stated that typographers do not recognize any one type family. "It isn't the type", said he, "it's the way it's arranged".

Among other production hints thrown out by Mr. Stuart, there was one to the effect that all 72 pt. quads are now thrown away in his establishment. He

said that these were cast at the rate of 10 quads per minute—and no boy can distribute them that fast.

Readability of Type

Chairman Wolf next introduced Harry L. Gage, Vice President of Mergenthaler Linotype Co., who spoke on the subject, "What Makes Type Readable?" Mr. Gage's address was concentrated, not on the uses of type in newspaper printing which have been recognized by common sense procedure as making for readability, but rather on the methods of scientific laboratory study by which common sense and judgment may be verified and amplified with research data.

Mr. Gage stated that the American Newspaper Publishers Association might logically establish a committee on research in the readability of types, possibly to cooperate with other broad divisions of the Graphic Arts Industries.

He asserted that we must recognize the immediate program that exists in research studies because personal taste or preference so often dictates the selection and uses of type. Many procedures in typography have come down through the centuries and are accepted as principles just because "we have always done it that way".

In defining the two kinds of research, he said that applied research starts with a process now in use and seeks to perfect its existing materials and methods, in due consideration for the possibilities out beyond their present scope. By way of illustration, he mentioned one particular project carried out by the Graphic Arts Division of Battelle Memorial Institute in Columbus, Ohio, which resulted in a new method of molding in making electrotypes.

Since it is a fair assumption that our present basic forms of the Roman alphabet will not be radically changed by the development of a new scheme of notation for the English language, then it is applied research in readability which may be expected.

"Practical experience" continued Mr. Gage, "now supported by research, tells us that many factors affect readability beyond the actual letter forms of the types themselves. The fitting or microscopically precise placing of each letter on its type body or matrix width, the word spacing and line leading, the length of line with respect to point size of type, such typographic phases as these are supremely important for readability. Then with respect to the printing procedure, we must also consider paper, ink and the possible use of conflicting material, as when screens or colors are interposed over type masses. Readability is measurably affected by paper tone, paper surface, paper color and by corresponding qualities in each. Thus we have a large number of variables affecting even the specialized field of newspaper printing, and here the conditions imposed by grayish newsprint, by conservation of space, and by high speed production techniques, all tend to handicap readability. It just becomes more important to preserve as much eye comfort as possible."

Mr. Gage showed a number of slides on a screen, most of which referred to studies published in a book, "Reading As A Visual Task" which embodied the results of several years work by Dr. Matthew Luckiesh and his associates at the research laboratories operated by the General Electric Co.

Possibilities of Printing Newspapers By Offset

The next speaker to be introduced was Charles F. Geese, Technical Consultant to Time, Inc. The speaker stated that in his opinion, offset is not as yet at a high enough state of development to be suitable for such applications or to be competitive with letterpress or gravure in the newspaper printing field. He stated that he felt confident the day may not be far off when this will not be the case.

Continued Mr. Geese, "The method used today to print newspapers seems to the experienced offset printer to be somewhat less than scientific. For instance, consider the time, trouble and expense of making plates. Out of years of experience, you have gotten these operations down to a fine art which you perform with amazing speed, but to the offset printer who can work from a glossy proof, photo-composed, and in a few relatively simple and almost automatic operations, has a printing plate of high quality, your best efforts seem awkward". Mr. Geese qualified his remarks by stating, "When you start up your presses, you can expect to finish your runs without undue process problems and delays. Offset offers no such assurances."

The speaker stated that offset as a printing method offers three potential advantages to the newspaper printer. First is that good halftone work may be produced without the use of engravings. Very little, if any, press or plate makeready is required to print satisfactorily, and third, because of the rubber blanket transfer principle, good quality work may be obtained on almost any type of printing surface. Unfortunately, these advantages are largely cancelled out by the present magnitude of process problems, which fall into two general classes —water and plate trouble.

He continued, "The offset principle is based on a very delicate balance which presumes that water and a grease ink will not mix on the essentially planographic surface plate. If the water and ink feeds to the press are carefully watched and controlled and printing speed held moderate as compared to modern newspaper, letterpress and gravure production, as much as 150,000 im-

Regional Conference Executives Meet

An innovation in newspaper mechanical executive meetings occurred on Tuesday night, August 6, at the Hotel William Penn in Pittsburgh. During an ANPA Mechanical Conference off-hour a number of regional conference executives met for dinner and discussed mutual problems. Among them were types of programs, program features, cooperation with the ANPA, and setting of non-conflicting regional conference dates.

Those attending the meeting were:

C. R. Snethen, Waukegan, Ill., President, Illinois Conference.

George L. Green, Providence, R. I., President, New England Newspaper Mechanical Conference.

A. E. Rosene, St. Paul, Minn., Past President, Northwest Mechanical Conference.

Val Wells, Des Moines, Ia., Past President, Iowa Mechanical Conference.

Joseph J. Mahoney, President, Holyoke, Mass., and Henry G. Jones, Portland, Me., Member Executive Committee, New England Daily Newspaper Composing Room Executives' Association.

Edward O. Davies, Harrisburg, Pa., Pennsylvania Newspaper Publishers Association Mechanical Conference.

C. Frank Mann, Louisville, Ky.; Henry M. Duke, Charleston, So. C., and H.R. Capps, sr., Jacksonville, Fla., all of ANPA Mechanical Committee.

Wm. C. Rolle, Newark, N. J., and Neal E. Dyer, Camden, N. J., New Jersey Mechanical Conference.

Theodore A. Serrill, Harrisburg, Pa., Associate Manager, PNPA, and Nicholas M. Fellman, Chester, Pa., Pennsylvania Newspaper Publishers' Association Mechanical Conference.

H. M. Colton, Bloomington, Ill., Illinois Mechanical Conference.

Geo. H. Fuller, Cleveland, President, Great Lakes Mechanical Conference.

Chas. M. Kirk, Detroit, Great Lakes Mechanical Conference.

Geo. W. Holloway, Elizabeth, N. J., Past President, New Jersey Mechanical Conference.

Frank J. Salmon, Grand Rapids, Mich., Director, Great Lakes Mechanical Conference.

Joseph K. Mooney, *Times-News*, Cumberland, Md.

pressions may be expected from a well-made offset plate. When the press is started up, a number of conditions commence to operate to destroy the balance that allows the offset principle to function.

"The non-printing area of an offset plate is grained and slightly pitted to hold water. When the press starts up, the abrasive action of the water applicator rolls, ink rolls, and rubber transfer rolls, starts to destroy the grain of the plate. Also, the acid in the water dampening solution begins to eat away the plate surface, and as a result of this action, an undeterminable number of impressions are obtained. At this point, the impressions become hazy. Later on the plate refuses to hold enough water to keep the grease ink from encroaching on a non-printing area, after which satisfactory printing is no longer possible.

"Oxidation is perhaps the most disturbing problem that the offset printer has to content with. If oxidation or 'rusting' occurs on any part of the non-printing area of the plate, that area is immediately sensitized to receive ink and it prints. The offset pressman knows that oxidation can happen on the 1000th impression or the 100,000th. When it occurs even on a tiny section of the plate, a new plate must be made. Oxidation is a pixy that is eager and ready to cause trouble if the pressman relaxes even for a moment.

"Oil (grease inks) and water do not mix, but they emulsify. This condition occurs in modern offset printing even at web speeds of 500 ft. per min. and lower. These speeds are one-half or one-third of the normal operating speed of modern newspaper equipment. No one knows what will happen when offset presses are built that will operate at a level comparable to relief and intaglio presses, but it can be assumed that new problems will turn up.

"These are not all of the problems encountered by printing by offset but they are some of the big ones".

Mr. Geese reported that several new press plates have been developed and tested experimentally which employ abrasive and acid resistent surfaces, that hold out hope of giving a printing life of a million or more impressions.

The speaker referred to the essentiality of photo-composing type for offset plates. He said that considerable work had been done on photo-composing of type copy and one such machine is being given encouraging experimental tests. If this or some other machine proves successful in commercial operation, offset will surpass present newspaper methods in platemaking speed and "get away".

Manager Wines Discusses ANPA Mechanical Department Utility

An unscheduled speaker on the Monday afternoon program was Walter E. Wines, Manager of the ANPA Mechanical Department. Chairman Wolf introduced Mr. Wines as "a clearing house for information".

Mr. Wines presented a resume from the inception of the department in 1927 to date. He commented on the first mechanical conference which was held in Harrisburg, Pa. in 1928, with an attendance of 82 executives as contrasted with the 650 registration at the time he spoke on Monday afternoon.[3]

He called to the attention of mechanical executives the fact that an important function of the mechanical department is in answering all sorts of technical questions. Through a readily accessible card index system which has been collated over a long period of years, the answer to almost any conceivable plant mechanical problem can be furnished promptly. He urged the executives in attendance to take fuller advantage of this service.

Educational Meeting by Carnegie Tech

ON Monday night, August 5 at 8 o'clock, an educational meeting was held in the Hotel William Penn Ballroom. Participating in the meeting were several members of the faculty of Carnegie Institute of Technology.

Dr. Webster N. Jones, Director of the College of Engineering and Science, among other things stated that the endowment fund in the amount of $12 million dollars had been completely subscribed for on July 1 of this year.

Prof. Lawrence B. Siegfried, head of the department of printing, outlined the course available in that department of Carnegie Tech.

O. A. Dickman of the New York Herald-Tribune presented himself in the dual position of being a former student of the department of printing of Carnegie Tech who went into newspaper work after having graduated from that department.

Prof. Glen U. Cleeton, Director, Div. of Humanistic and Social Studies, hoped that all people in the printing industry would pull together so that the printing department could graduate more students than any other department. This statement was made relative to the importance and the size of the printing industry nationally.

Harry L. Gage, Vice President of Mergenthaler Linotype Co. presented a rather forceful address with respect to the present day necessity for technical education in the Graphic Arts. He said that since his generation, it has become impossible for boys to acquire a technical knowledge of the trade as he did; in other words, there is very little chance for them to work and acquire knowledge in a printing plant unless they became apprentices. There is no chance in the shop for them to get a well-rounded mechanical training. In order to acquire this knowledge under present day conditions, they must go to college.

He said, "As a professional group, it behooves newspaper readers to pay attention to technical education. You men here know that the experience you have had in achieving top positions cannot be duplicated for your sons in the present social and economic scheme. The doors are locked so far as the printing crafts are concerned, but there is still a wide open chance for the formal training of technical production men. In fact, this is the only solution to the technical educational problem".

[3]Later on the total attendance was about 900 for the 1946 Pittsburgh meeting).

Carboloy Routing Chuck for Plastic Plates

DURING his address on plastic printing plates at the Pittsburgh ANPA Mechanical Conference, Eugene Williamson of Williamson & Co., exhibited a small chuck holding carboloy blades which are used for routing plastic printing plates. The blades are two-edged; when an edge becomes dull, the blade can be turned for a sharp edge; the cutting edges can be sharpened when dull. The tools last 100 times longer than the standard steel routing bit. The carboloy chuck can be obtained from Allegheny Ludlum Steel Corp., Pittsburgh, Pa.

Charles Kirk, Stereotype Superintendent of the Detroit *News*, who has done some experimenting with carboloy tipped router bits, stated bits can be obtained from the Sterling Supply Co., Detroit. He said sizes range from 1/32 in. to 1/4 in. It was also reported that Burgess Cellulose Co. and Eastern Newspaper Supply in all probability would handle the routing bits.

Platemaking Session

Plastics, Infra-red Mat Drying, Autoplate Equipment for Tension Lockup Stereotype Plates, Magnesium Plates, and Direct Pressure Stereo Molding

ONE of the most lively sessions of the entire Pittsburgh ANPA Mechanical Conference was the platemaking meeting which was held on Tuesday morning at the William Penn Hotel. Leslie J. Griner, Assistant to the Publisher of the Fort Wayne (Ind.) *News-Sentinel*, and a member of the ANPA Mechanical Committee, presided as Chairman of the meeting.

Chairman Griner introduced Eugene Williamson, President of Williamson & Company, Caldwell, N. J., who spoke on the subject, "Plastics for the Printing Industry". He explained the difference between thermoplastic and thermoset-

ting plates. He also explained in detail the technique of molding Vinylite thermosetting and thermoplastic plates.

He said that he had run plastic plates experimentally on rotary magazine presses. The plates were not as durable as electrotypes at that time on the presses. The main present use of plastic plates is for stereotype matting purposes in producing national advertising plates.

As in the case of molding from electrotypes, he stated that no better plastic plates could be secured than was inherent in the pattern from which the plate is molded.

He asked the executives in the audience to refrain from forming any opinions about plastics on the basis of the ad plates which have been recently and are now being distributed, without first determining if the plate is made from Vinylite or a material of equal quality.

With respect to the finishing of plastic plates, he stated the conventional router bits do not last long. He recommended a bit having carboloy tips. These carboloy tools last 100 times longer than the standard steel bit. He exhibited a chuck, holding a carboloy bit. Each of the little blades was two-edged; when one edge becomes dull, the blade can be turned. Each of the two-edged blades can be sharpened when both edges have become dull. He mentioned that the particular bit which he was exhibiting could be obtained from Allegheny Ludlum Steel Corp., Pittsburgh, Pa.

Charles Kirk, Stereotype Supt. of the Detroit *News*, stated that the Sterling Supply Co. of Detroit could supply carboloy-tipped routing tools in sizes ranging from 1/32 to 1/4 in. He said that tools from 1/8 in. on up were very successful and last 100 times longer than the ordinary tip. It was also mentioned that Eastern Newspaper Supply and the Burgess Cellulose Co. probably will handle these particular tools mentioned by Mr. Kirk.

In trimming plates to size, Mr. Williamson stated that a band saw was preferred to a saw of the circular type.

W. H. Lacker, Stereotype Supt. of the Indianapolis (Ind.) *News*, stated that in his opinion, plastic plates were superior to other types and are here to stay. He observed, however, that a number of plates received at the *News* were not deep enough in the non-printing areas. He stated the non-printing depth of a plate should be 0.040 in. Mr. Williamson replied that platemakers recognize the depth problem in newspaper printing.

Leon A. Link, Production Manager of the Cleveland *Plain Dealer*, asked Mr. Williamson about the progress that had been made in curving plastic plates for printing direct on a colored comic press. Mr. Williamson said experiments on curving plastic plates have been temporarily stalled, because the device which is expected to curve the plate has not been perfected as yet. Mr. Link also asked Mr. Williamson with respect to ink saving when printing color comics. The speaker replied that there is a saving of 10 per cent over regular inks, particularly in printing with colored inks.

In the curving of plastic plates for press cylinders it is necessary to heat the plate up to 180 deg. He stated that he wanted to experiment more with plate curving before making recommendations.

Mr. Kirk arose to ask about molding temperatures used in plastic plates and the hazard of softening the plate under the heat exerted by direct pressure which would ruin a plate for use, and in particular might damage both plate and mat from the first molding. Mr. Williamson declared that he did not believe plastic plates would stand up under direct pressure molding where the platen temperature reaches 200 deg. But that the 200 deg. temperature perhaps would not penetrate a plastic plate in the 45 sec. to 1 min. while the plate was in the molding press.

1947 ANPA Mechanical Conference

BEFORE adjournment of the Pittsburgh ANPA Mechanical Conference on Wednesday after noon, August 7, Chairman of the Committee Worth Coutney announced that the Mechanical Committee had fixed the dates for the 1947 Conference. The 1947 Conference will be held at the Palmer House in Chicago on Monday, Tuesday and Wednesday, June 9, 10 and 11.

Charles G. Bowen, Stereotype Supt. of the Philadelphia *Inquirer*, wanted to know about the solvent effect on plastic plates. He said a proof of a plate had been taken in a composing room and when the solvent used to wash the ink from the plate was used, the halftone dots in the plate spread in the molding operation. Mr. Williamson cautioned against the use of acetone, benzol or any of the harsher solvents, particularly alcohol, which he said will soften a plastic plate. He advised the use of kerosene, naphtha or gasoline as a solvent for cleaning plastic plates.

Gerald Wise of the Butler (Pa.) *Eagle*, asked about the shrinkage of the pattern. Mr. Williamson replied that it was of the order of 0.004 in. to 0.005 in. per lineal in. or 1/16 in. in 12 in.

The heat life of Vinylite material is 110 min. at 275 deg. F. Eventually through repeated use, under normal conditions, Vinylite will stiffen up. After four or five usings successive molding pressure is required.

Shrinking Stereotype Mats with the Infra-matic Dryer

Chairman Griner then introduced F. W. Lautsch, Chief Electrician of the Baltimore (Md.) *News-Post*. Mr. Lautsch described the Infra-matic dryer which takes care of eliminating the excessive moisture in mats when extreme shrinkage is desired. Mr. Lautsch stated the Infra-matic dryer operates to eliminate moisture in mats by radiant heat. Penetration of rays is uniform all the way through. John J. Shea, General Mechanical Supt. of Hearst Newspapers, mentioned that the New York and Chicago units previously had worked with the dryer several years ago. The urge behind perfection of the dryer by Mr. Lautsch is that it enabled the Hearst organization to save additional newsprint tonnage since the Baltimore papers are using 64¼ in. newsprint rolls. The infrared machine is used by several other Hearst papers.

Francis J. Litz, Stereotype Supt. of the Baltimore *News-Post* next spoke upon the operation of the dryer in practical operation in his plant. He stated the machine is completely automatic in operation and that the only adjustable control is an electronic timer which is set for the desired amount of shrinkage.

Mr. Litz explained carefully that in connection with the use of the Infra-matic dryer, he doesn't know what a buckle in a mat is. When the dryer is not in use, no current is consumed except for the small amount consumed by the electronic timer. The Infra-matic dryer, after turning on the switch initially, is ready for operation in one minute.

In response to a question by Terry Mahan, Stereotype Supt. of the Akron (O.) *Beacon Journal*, Mr. Litz said that the *News-Post* is using the Certified Ace Hi mat, containing 32 per cent moisture. He explained that he obtained 3/8 in. pre-shrinkage in one minute's time in the Infra-matic dryer and the balance of the shrinkage was obtained in the Sta-Hi former.

Fig. 1.—View of Wood Tensionplate Autoplate Stereotype Shaving and Trimming Machine. In addition to trimming stereotype plates like the standard models of Autoplates, this Machine mills eight pockets (four on each side of the bottom side of the plate) which enables the locking fingers on the Goss printing press cylinder lockup device to hold the plate on the press cylinder under tension.

Autoplate Redesigned for Milling Tension Finger Pockets In Stereotype Plates

The Wood Autoplate Machine for milling pockets in stereotype plates cast especially for the new Goss Tension Plate Lockup was discussed by P. L. Tollison. Mr. Tollison is Director of Research and Development for Wood Newspaper Machinery Corp. Mr. Tollison explained to the audience that he was pinch-hitting

Fig. 2.—View (looking underneath the plate) of a newspaper stereotype plate, in which locking pockets have been milled by the new Wood Tensionplate Autoshaver. The plate is held under tension rather than by compression on the printing press cylinder.

for Oscar Roesen, President of the Wood Newspaper Machinery Corp., who was originally scheduled to deliver the address but was prevented from doing so by illness.

In order to give the mechanical executives a clearer idea of the features of the new Autoshaver, Mr. Tollison exhibited a small scale model and a number of lantern slides on a screen.

Mr. Tollison explained his company had redesigned the Autoplate so as to make it suitable for milling the pockets in the underside of the stereotype plate, so that the plates could be held under tension on the press cylinder by means of the new Goss Tension Plate Lockup. The new machine has been developed without adding much floor space to the overall length of the machine.

In order to hold down the overall length of the Tensionplate Autoshaver, the milling of the pockets in the plate is being done in one of five stations, along with its other function, or in other words, would combine the cooling and drying in the last station in the machine, so that the milling of the pockets in the plate could be done in a second arch just below the shaving arch.

"For milling the pockets," said he, "three sets of gang cutters, each gang consisting of four cutters, are provided in the milling arch. Each cutter bar, that is, the bar which supports the four cutters, is given a rocking and longitudinal motion so it may be rocked into cutting position for depth and then moved longitudinally in order to give the proper length of pocket. The two sets of gang cutters are driven by a separate motor from that supplying power to the autoshaver itself, but the control of these cutters as they go into depth and along the length of the pocket is timed in accordance with the rotation of the Autoshaver and knife bar. The cams which control the depth of the pockets are adjustable, also, by moving the cutters up or down on their spindles the cutters can be adjusted for distance between pockets.

"As the plate goes through an Autoshaver, it is shaved while quite hot. Certain problems arose in this connection with metal sticking to the teeth of the cutters and also to the ribs on the plate. The desirable type of cutter was found. In addition, a slight amount of lubricant was found to be beneficial in keeping the cutters clean. Therefore, a lubricating system was installed, whereby each cutter is fed with approximately one drop of oil every 40 sec."

He said the first of the Tensionplate Autoshavers is in operation in the Brooklyn plant of the New York *Daily News*. Subsequent machines will be arranged for cooling and drying both sides of the plate, the water being applied for approximately half the operating cycle and drying air for the remainder of the cycle.

With respect to the transitory period during which newspaper plants will have installed new Goss presess with the Tensionplate lockup, while still operating some of the older presses with the standard type lockup, Mr. Tollison said the Wood Corporation had anticipated this situation. He said the plates going through the Tensionplate Autoshaver may be milled or not as desired by the stereotyper. To accomplish this, a simple knob is placed on one side of the machine, with markings "on" and "off". A twist of the knob to the "on" position will cause each plate passing through the machine to be milled for the Tensionplate lockup, and by turning the knob to the "off" position, the plates will go through without being milled. This selectivity is accomplished by controlling the plate stop in the milling arch. Thus when a plate is not to be milled, the plate stop in the milling arch is locked down and the plate shoots right through from the shaving arch to the cooling and drying stand without stopping.

Mr. Tollison stated that in the case of the Heavy Duty Autoshavers which are supplied with a detachable end, the end can be removed. By fitting on the new end, the machine becomes a Tensionplate Autoshaver. His best guess at the present time is that it would take about a week to make the changeover on each machine.

In the case of the Standard Autoshaver, this machine has no dividing line between the shaving arch and the cooling stand. Thus for users of the Standard Autoshaver, it is suggested that the machines be turned in for complete Tensionplate Autoshavers, carrying all of the Heavy Duty Autoshaver features. In the case of Pony Autoplates and perhaps hand box equipment, Mr. Tollison said he was frank to admit that this equipment does not lend itself to the addition of a milling arch without making the machine long and unwieldy. As a result, it was decided that the best manner in which to do the job for Pony Autoplate and handbox users was to provide a separate machine for milling the pockets in the stereotype plate.

Mr. Tollison then explained how these machines can be used to produce sets of color plates which will be in register when they are clamped on the printing cylinders of the press. For pre-registering color plates that are to be used with tension lockup, the new Wood Color Plate Pre-Registering machine will pre-register them by the same principle as the color plate pre-registering machine registers color plates to be used with conventional or standard lockup.

In response to a question asked by Edwin H. Evers, Production Manager of the St. Louis *Globe-Democrat*, Mr. Tollison said that the new Tensionplate Autoplate machine is approx. 12 in. greater in length than the length of the Heavy Duty Autoshaver.

In answer to a question asked by Leslie J. Griner, Assistant to the Publisher of the Ft. Wayne (Ind.) *News-Sentinel*, Mr. Tollison stated the speed of the new machine is 5 plates for the Autoplate and 6 plates per min. for the Junior.

L. J. Chase, Production Manager of the St. Louis *Star-Times*, asked if double-page stereotype plates could be milled on the new machine. Mr. Tollison stated they could be milled by two operations, first milling one end and then the other.

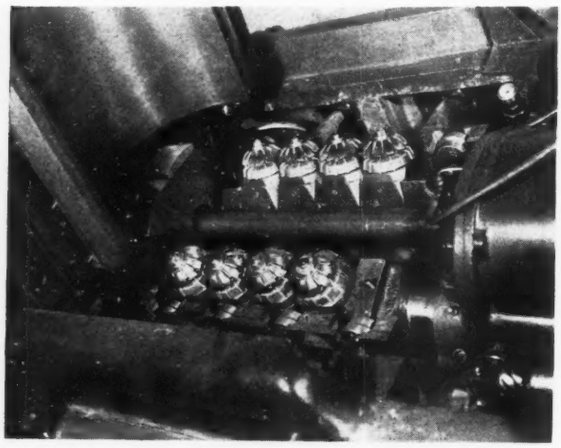


Fig. 3.—View of section of the new Wood Tensionplate Autoplate Shaving Machine. The milling arch, a semi-circular plate shown in the upper left-hand corner of this picture, has been raised to permit a view of the milling cutters. When the machine is in operation, the milling arch is lowered in position over the cutters to support the plate which is having the pockets milled into it by the cutters. The two sets of gang cutters (four on each side) when going into action, are giving both a rocking and a longitudinal motion—for depth of cut in plate and for proper length of pocket. The two sets of gang cutters are driven by a separate motor from that supplying power to the Autoshaver itself. A lubricating system has been installed so that each cutter is fed with approximately one drop of oil every 40 sec.

Magnesium For Photo-Engraving Ably Presented

Chairman Griner introduced A. G. Swayze, Research Engineer of the Dow Chemical Co., who spoke on the subject "Magnesium Printing Plates". Mr. Swayze was one of the best, if not the best speaker at the conference. He demonstrated a thorough knowledge of his subject. His discussion was a distinctly enthusiastic one in favor of the future use

of magnesium for printing plate purposes. He stressed its light weight, durability, and enumerated certain characteristics which make it ideal for photo-engraving. He stated that the supply of magnesium was inexhaustable. There are 10 billion pounds of magnesium in each mile of sea water. The supply is unlimited. After the magnesium has been extracted, the water is returned to its source, after which it recollects the metal. He described the extraction process from sea water in detail.

Magnesium as a metal is not fit for many uses until it has been alloyed to have specific properties. The Dow Company has a special alloy for photo-engraving. The weight of photo-engraving magnesium is four to five times lighter than that of zinc or copper.

Mr. Swayze grew enthusiastic about the possible future uses of magnesium in the construction of printing presses, inasmuch as the light weight of the metal, together with its strength, is suited admirably for that purpose.

To contrast the different weights of magnesium, zinc and copper Mr. Swayze stated an 11 pt. magnesium plate, approx. 30 in. by 40 in. weighed 12 lbs. A zinc plate of the same pt. size and area weighed 48 lbs., while a similar size and surface area of copper plate weighs 55 lbs.

In the etching operation, the same equipment is employed for magnesium as for zinc. There is, however, a slight modification in the operation. Etching is accomplished twice as fast with one-half the strength of nitric acid. Magnesium is of extremely fine grain size; therefore, up to 200-line screen halftones can be obtained readily. There is no stretch in the plate. There is minimum warping during burning-in time because the plate comes back while it is being cooled. Recrystalization occurs at a temperature of 400 deg. During a test, 2230 stereotype mats have been rolled from a single plate.

Magnesium is classified in the laboratory as the fastest routing of any metal today.

He recommended when magnesium plates are stored that moisture-resistant oils or heavy wax paper be used to wrap the plates to prevent oxidation, so as to provide resistance to moisture in the air.

Mr. Swayze said that he was not familiar with the pre-curving of printing plates in the printing field, but would investigate and report later.

Chairman Maurice Hagan asked Mr. Swayze with respect to the fire hazard in routing magnesium. Mr. Swayze replied by stating that spontaneous combustion is a fire hazard with all powdered forms of metal. He said the only thing asked by the sponsors of magnesium is that precaution be taken at the end of the day to gather up all magnesium waste materials. In other words, Mr. Swayze recommends good housekeeping habits.

When asked about the price of magnesium photo-engraving metal plates, Mr. Swayze said that at the present time magnesium is between 30 to 40% cheaper than copper in like surface area; it is 50% higher in price than zinc of equivalent surface area.

Mr. Hagan remarked that in Philadelphia where he had conducted some experimental work, he has had trouble with the chlorine in the water supply, because the water goes to work immediately by having an etching effect upon magnesium. He stated that water operates on all metals, but with magnesium he recommended a protective film to make it passive. Old cold top can be used to protect the plate, provided the plate is coated with it as soon as it has been cleaned. Another object in coating the plate is to passivate it quickly, after cleaning to prevent oxidation.

John J. Shea, General Mechanical Supt. of Hearts newspapers, stated newspaper executives should not get the idea that a substitution of magnesium for zinc could be effected over night. Mr. Hagan replied by stating that magnesium is ready for the photo-engraving trade, but photo-engravers are not yet ready for magnesium. He said it would take considerable re-education in the etching and printing departments, as well as in the routing departments. It is a nice job in etching magnesium plates to round up the dots. It is particularly easy to spoil a magnesium plate in the routing room. He feels that magnesium offers many improvements in photo-engraving over zinc, inasmuch as he has been working with the new material for several years.

Experience with Direct Pressure Molding

The stereotype direct pressure molding section of the platemaking program wound up with a good old fashioned discussion by newspaper mechanical executives upon the molding technique.

The first speaker on the program was C. W. Govier, Production Manager of the Buffalo (N.Y.) *Courier-Express*. Mr. Govier stated emphatically that good form preparation is necessary for the success of direct pressure molding. At the *Courier-Express* plant, a 67 in. roll is used. The shrinkage expected is 3/16 in. from a 20 per cent moisture mat. Halftones are mounted in the form 0.925 in. high and rules are 0.922 in. high. All cuts are mounted on solid stereotype base. When the occasion arises in the case of undercut halftones, a cellophane sheet is used in the molding operation to prevent tearing the face of the mat. Mr. Govier stated that some mat makeready is used in the *Courier-Express* plant.

He stated that with direct pressure molding in the stereotype department, an average of 1½ corks per month over a four-year period have been used. All corks function better as a molding medium after having been used a few days. His stereotypers like a fairly hard molding combination. In reporting on molding tests made with direct pressure and matrix molding machines, he stated that 1/16 in. less shrinkage in area is obtained with the roller-molded mats than with one molded by direct pressure. He stated that with direct pressure molding the mat goes further into the open areas of the form than in the case of roller molding. His final statement was to the effect that the only place in the stereotype room in which time can be saved is in the molding department. One can't save time in scorching or other operations in the department.

L. Z. Monroe, Mechanical Supt. of the Pontiac (Mich.) *Press* next spoke upon the subject of the *Press's* experience with direct pressure molding. He said direct pressure molding had been used in the *Press* plant for 11 years. He cautioned mechanical executives that direct pressure presses are much heavier than rolling machines and that full attention must be given to floor strains when installing a direct pressure press. He has found that slugs must be solid and should be free from air bubbles. Also the form itself must be justified more efficiently than for roller molding.

George Fuller, Stereotype Supt. of The Cleveland *Press* who uses a Directomat machine, stated emphatically that he doesn't like corks for use as a molding combination. He stated that if he had to use corks, he wouldn't use direct pressure. At the present time, he is using a Tingue, Brown foundation blanket on top, with a Combinall printing blanket underneath. The Combinall blanket is furnished with a synthetic face on one side. He said he is attempting to persuade the manufacturers to provide a two-sided synthetic coated blanket.

The "Final Bump"

Upon insistent requests from the floor, Harry Wrasse, Stereotype Supt. of the Milwaukee (Wis.) *Journal* came to the microphone.

Mr. Wrasse described the "final bump" which he gives to the form and mat after the first molding operation. He stated this operation brings the halftone areas down level with the surface areas of the type in the form. After the initial molding operation has been completed, he brings the platen down to its normal position. He removes the molding combination, reduces the pressure to 100 T., and raises the matrix against the bare top platen to iron out such differing levels which may exist in the mat as de-

Advocates Elimination of Leaders

WALLACE GRANGER of the Goss Printing Press Co. advocated the removal of all leaders from newspapers, at the recent ANPA Mechanical Conference held in Pittsburgh on August 5, 6 and 7.

Mr. Granger urged the removal of all leaders from newspapers because of troubles encountered in the pressroom with the leaders punching through the sheet.

It is the opinion of *Printing Equipment Engineer* that considerable thought should be given to this statement.

scribed above, particularly the halftone areas.

Mr. Wrasse, in response to an inquiry, stated that he uses Tingue, Brown Foundation blankets. When new, six blankets are used; as the combination becomes packed through use, he may add one or two more to maintain thickness.

He stated that he had no trouble with plastic plates disintegrating or softening under the heat while the form is under molding pressure.

In response to the question asked by Blanchard Wilson, Stereotype Supt. of The Cleveland *News*, he stated that the mat comes off the form the same size as the form itself and immediately upon removal from the form, it starts to shrink. The heat generated by the upper platen of the press softens the fibers in the mat and distributes the moisture, thus sealing the face of the mat.

His form elements are 0.918 in. over the entire page as close as it is possible to keep them.

Developments In Newspaper Printing

JOHN J. SHEA, General Mechanical Supt. of Heart newspapers, served as chairman for this clinic. Mr. Shea is a member of the ANPA Mechanical Committee.

"New Developments In Newspaper Printing Presses" was the first subject to come before the attention of this meeting. Executives from the various press manufacturing companies who spoke were as follows: Wallace Granger for the Goss Printing Company, John J. Sweeney for R. Hoe & Co., Carl Drenge for Walter Scott & Co., and Earl Lacure for Duplex Printing Press Co.

Goss Presses

Mr. Granger discussed at some length the new postwar newspaper printing presses which would be manufactured by the Goss Printing Press Co. He stated there were two new important developments in Goss presses. These are the Goss Tension Plate Lockup[4] and the new Colortrol inking mechanism.

He discussed both laboratory and field tests which had been made with printing presses equipped with the Tensionplate lockup. On one test in particular, a press unit was operated at a speed of 80,000 impressions per hour. During this particular test, the plate did not lift from the cylinder and the packing on the blanket cylinder was in good condition at the end of the run. "With the Tensionplate lockup," he said, "color plates cannot slip out of register. The new inking mechanism employs no ductor rollers. The mechanism supplies a continuous ink feed at all times."

"All Goss postwar presses will be flexible for color. All bearings will be preloaded and will have no end play, so that the cylinder will always travel in a true path."

Mr. Granger asserted there is a crying need for precision equipment for making stereotype plates. One of the statements made by him seems to carry considerable weight—that there is a need for research to solve the problem of balance which has to be met in handling heavy plates on rapidly turning press cylinders.

[4]See April, 1945 issue for comprehensive article on the Goss Tension Plate Lockup by Curtis S. Crafts, Chief Engineer, Goss Printing Press Co.

Hoe Presses

John J. Sweeney, of R. Hoe & Co., discussed the new Hoe Color Convertible Press. He stated that the new Hoe streamline unit is designed for the ready attachment of accessory color equipment at any time. As the need arises in the newspaper printing plant, the press may be readily converted to color printing according to the needs of the plant. The additional color facilities may be added in the pressroom without shipping the press to the factory. All provisions for the required changes to color are incorporated in the castings of the new press.

Mr. Sweeney explained that in some cases because of the nature of the leads desired, it is necessary to reverse the right-hand printing couple. This is accomplished by placing a reversing mechanism at the main drive shaft near the bottom of the unit upright drive shaft, thereby reversing the entire unit. The left-hand couple is then returned to its proper direction of rotation by means of a cylinder reversing mechanism. To reverse the entire unit, the pressman cranks the lead screw itself. All standard unit gear boxes are provided with finished holes to accommodate the reversing mechanism parts and the holes are filled with dummy plugs when a reversing mechanism is not desired in the original press installation.

The speaker stated that in order to further simplify the procedure of printing run-of-paper color on black units, Hoe engineers have expanded the application of the Hoe ink pump system.

The new Duo-Color Ink Pump and Reel have been designed especially for run-of-color printing and allows the couple to which it is attached to print either black or color.

Mr. Sweeney stated other new design features had been incorporated in the Hoe Streamline Color Convertible Press. The new instantaneous plate lockup has four clips for each plate as compared to three in the old lockup. The clips can be adjusted for various plate widths by turning Allen screws on the outside of the cylinder ends. A special honing process developed during the war is now being used to insure a perfect individual fitting of each clip in its clipway. The clips are 4 in. long. A single movement of a lever serves to unlock or lock the plates on the press.

The new full-speed web splicing mechanism has an entirely automatic electrically operated auxiliary spindle brake tension. The former hand lever on the web splicer has been replaced with an electric push button control. An electric eye stops the new paper roll close to the expiring web. When the reel is rotated at the start of the pastermaking cycle, the change from running belt to spindle tension, preliminary to a web splice, is now made automatically and with no change in web tension. "This is very important in multi-color work", said Mr. Sweeney, "since correct uniform tension is necessary to good registration".

Other features of the press were discussed by the speaker, among which were improved folder design, gear housing for all of the gearing on the printing

Eliminating Scum on the Plate*

*Summary of discussion by Jack Kelt of the Mallinckrodt Chemical Works, before the August ANPA Mechanical Conference, Pittsburg.

NO SUBJECT has been given greater discussion by photo-engravers than Cold Top Enamel, with particular reference to the troubles encountered during hot and humid weather—the difficulty of development of the image and the scum encountered on the plates.

On finding that the print would not develop normally, most photo-engravers would clean off the print, recoat the metal and make another print which would develop out all right. Now, the question arises: Why did the second print develop and the first one didn't under the same conditions?

Recent developments seem to point to a peculiar chemical reaction between the zinc metal and the chromium salt contained in the cold top enamel solution. We have found in actual practice in a number of photo-engraving plants that if the zinc metal is first coated with a solution of Ammonium Dichromate before the cold top enamel coating is applied, the resultant print will develop easier and cleaner and will be a better and stronger print.

The procedure is simple and is as follows: Prepare the metal in the usual way by polishing with pumice powder or other cleaner normally used; wash off the metal and drain the water thoroughly; then apply a small amount of a 10% solution of Ammonium Dichromate to the metal; (1 oz. of the Ammonium Dichromate to 10 oz. of water will be sufficiently close for this formula); rub the surface with cotton and see that the solution comes in contact over the entire surface of the metal. Now wash off the dichromate solution and coat with cold top enamel in the usual way. No change in printing or developing time is indicated.

The use of a tray or even a dipping bath containing the dichromate solution could be used to advantage in the larger plants. The immersion of the metal for a few minutes in the dichromate solution would do no harm. Rather, it would be a surer way of bringing the solution in contact with the entire surface of the metal.

Note: Ammonium Dichromate and Ammonium Bichromate are synonymous.

unit, and the independently removable casings for the unit which are of such design and construction that the casings may be removed and the press unit can be operated without the casings being in position.

Scott Presses

Carl Drange, Vice President of Walter Scott & Co. explained at some length the engineering principles embodied in Scott newspaper printing presses. Mr. Drange discussed the many advances which have been made by the automobile industry in developing new steel for gears, shafts, and the like, and that Scott had adapted many of these scientific achievements in the construction of its presses.

In discussing the major changes, Mr. Drange stated, "We have eliminated from our standard width press the normally unused portion of the printing and ink cylinders. This shortening brings the side frames 10½ in. closer together. At the same time it will increase the printing cylinder roller bearing journals to 6½ in. diam. and the inking cylinder roller bearing journals to 4½ in. diam. This combination of shorter cylinders and extra large diameter bearings, produces a firmer impression and therefore definitely betters the printing ability of the press.

"We have entirely divorced the drive of the ink feed and the ink vibration mechanism, both of which are subject to pulsation, from the printing and inking cylinder drive and instead we drive them directly from the main press driving shaft which results in a clearer and sharper impression at all times, as there is no reaction on the printing function from the pulsations of the ink feed and vibrating mechanism.

"The major improvement of far-reaching importance has been made by us in the gearing of the latest Scott press. We have applied for the first time to the newspaper printing press engineering principles pioneered and used with great success by the automotive industry."

With respect to the Scott main driving shaft, Mr. Drange stated, "It now makes four turns for every printing cylinder revolution as compared with one or two turns of the conventional design. The heat-treated alloyed steel main gears are 8 in. diam. compared with the conventional 12 in. to 15 in. diam. These 8 in. gears and our 2 3/16 in. diam. main shaft because they make twice or four times the number of revolutions for each printing cylinder turn, needs only deliver one-half or one-quarter power per turn. Also, since the load is at 4 in. radius with 8 in. gears as compared with the conventional 6 in. radius with 12 in. gears or 7 in. radius with 15 in. gears, the torsional or twisting strain on the shaft is proportionately reduced. The result is that the torsional resistance of our 2 3/16 in. shaft is at least 25 per cent greater than a 3½ in. diam. 2:1 steal shaft with larger gears and much greater than a 4 in. diam. 1:1 steal shaft.

"Actual calculations also show that by employing these SAE gear steels correctly heat treated and at the higher running speeds, we can now use much narrower face gears than are necessary on the conventional type of gear and these new smaller and narrower gears are still several times as powerful and durable as a conventional gear".

Continued Mr. Drange, "By reason of the narrower modern alloy steel gears, the guard projections and oil housings have only about one-half of the projection of the conventional type of gear housing. The result is that our entire unit, including the shorter cylinders, is 22 in. narrower. thus saving nearly 2 ft. in width of pressroom space, or providing that much additional working space around the machines."

Mr. Drange enumerated the color printing facilities which may be added to either new or already installed presses. These are (1) color plate cylinders (2) color printing couples (C) color units (4) reversing drives for either or both printing couples (5) stationary or portable color fountain lead and (6) late news and red line strip fudge devices.

Duplex Presses

Earl Lacure of the Duplex Printing Co. discussed the postwar presses to be offered by his firm. He stated that Duplex had nothing spectacular to offer and no radical changes in press design have been made since the war. The reason for this, he explained, is that during the war Duplex press production was completely stopped. He did say, however, that the engineering department had accomplished quite a little.

Some of the improvements mentioned by Mr. Lacure which will be included in Duplex's postwar presses are as follows.

All Duplex presses will be streamlined and modernized and many new materials will be incorporated in their construction. All gears on the new presses will be enclosed but will not operate in a bath of oil, inasmuch as Mr. Lacure declared that this method of lubrication consumes too much horsepower. At the base of each unit, a pump will be provided which will spray all gears. Gears will be made from new alloys and will be helical cut. Spiral bevel gears will be utilized on the drive.

Removable color fountains will be provided. Reversing mechanism in the

Conference Dates

ANPA Mechanical Conference—Palmer House, Chicago, Ill., June 9, 10, 11, 1947. Worth Coutney, Chairman; Walter E. Wines, Manager, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Great Lakes Mechanical Conference—Hotel Claypool, Indianapolis, Ind., October 27, 28 and 29. George Fuller, President, Stereotype Supt., Cleveland *Press;* Al Oberg, Secretary, Comp. Room Supt., Flint (Mich.) *Journal.*

International Association of Electrotypers & Stereotypers—French Lick Hotel, French Lick, Ind. October 9, 10, 11. A. P. Schloegel, Executive Secretary, 846 Leader Bldg., Cleveland 14, O.

International Association of Printing House Craftsmen—1947 convention city to be announced later. Wm. H. Griffin, President, Griffin Bros., 447 Sansome St., San Francisco, Calif.; Secretary, Pearl E. Oldt, Central High School, Grand Rapids, Mich.

International Trade Composition Association—Frank M. Sherman, Executive Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

National Association of Photo Lithographers—Shoreham Hotel, Washington, D. C. October 3, 4 and 5. Walter Soderstrom, Executive Secretary, 1776 Broadway, New York 19, N. Y.

New England Mechanical Conference—Hotel Statler, Boston, Mass., Oct. 5 and 6. George L. Green, President, Providence (R.I.) *Journal;* Walter C. Crighton, Secretary-Treasurer, New London (Conn.) *Day.*

Northwest Mechanical Conference—President, Wm. C. Brown, Mechanical Supt., Minneapolis (Minn.) *Star-Journal;* Vernon Eck, Secretary, 3725 48th Ave. S., Minneapolis 6, Minn.

Pacific Newspaper Mechanical Conference—1947 meeting at Hotel Fairmont, San Francisco, Calif. May 11, 12, 13, 1947. President Ira E. Stuck, San Francisco *Shopping News.*

PNPA Newspaper Mechanical Conference—Wm. N. Hardy, Mgr., Pennsylvania Newspaper Publishers' Assoc., 209 Telegraph Bldg., Harrisburg, Pa.

Printing Industry of America—James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington 5, D. C.

SNPA (Eastern Div.) Mechanical Conference—Walter C. Johnson, Manager SNPA, P. O. Box 1569, Chattanooga 1, Tenn. Chairman Executive Committee, I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times.*

SNPA (Western Division) Mechanical Conference—Galveston, Texas. February 17, 1947. Secretary, C. W. Tabb, 723 Texas Bank Bldg., Dallas, Tex. Executive Committee Chairman, F. J. Williamson, San Antonio (Tex.) *Express-News.*

unit will be operated by one lever. Both single and double color cylinders will be provided for blank units. Facilities are provided so that these may be added any time in the future. The color units are interchangeable and are readily adopted to any color combination.

With respect to the shaft bearings, a little finger arrangement has been applied which contacts the shaft and a miniature reservoir under each bearing. The idea is that after a press has been standing idle for a time, lubrication commences immediately and it isn't necessary to wait for lubricating pressure to be built up when the press has started.

Mr. Lacure made some remarks concerning the present stereotype plate which weighs between 47 and 50 lbs. If this present metal plate could be eliminated in some way in favor of a lightweight plate, many pressroom troubles would be eliminated. The heavy plates unbalance the plate cylinders in the press. He doesn't think the improvement can be accomplished with the present metal plate, considering that both open and closed pages have great weight variation when on the plate cylinders.

Color Conditioning

P. F. Hessler of E. I. du Pont de Nemours & Co. discussed color conditioning as applied to walls and ceilings in the plant. The idea of the du Pont color conditioning program is to provide suitable hued walls and machinery to relieve eyestrain on the part of the worker and to prevent accidents.

Lighting engineers and printing plant executives have been giving a study of color surroundings in the plant a great deal of attention in the past few years. Only a sketchy outline of the principles of color conditioning can be presented here.

Mr. Hessler stated that color should be useful or functional. Color conditioning for industry should not be confused with interior decorating. For instance, a typical color scheme can be realized from three shades of green—a light shade of green on the walls, a darker shade on doors, etc., and a deep shade of green on wainscoat areas.

He stated that color, according to the du Pont interpretation, expresses function. For instance, red indicates fire equipment; yellow indicates hazards; green is used to indicate safety equipment; gray and white indicate aisles; orange is used to indicate danger areas, and blue is used to indicate areas under repair and which are not to be touched by the worker.

Mr. Hessler distributed an elaborate booklet in which is fully explained the principles of du Pont color conditioning.

Cold Cathode Lighting

A. A. Byer of the Cold Cathode Lighting Co. discussed "Cold Cathode Lighting". He said through the means of this particular type of light, shadowless illumination is obtained. The Cold Cathode Lamp is a 10,000 hr. lamp. No glare results to the worker from its illumination. The speaker mentioned the ease of installation. He said the composing room demands the most severe requirements in lighting facilities. The high level of illumination is provided without glare, especially for new line-composing machine slugs which are particularly difficult to handle from the standpoint of eyestrain. He mentioned one type of installation whereby the lamps are mounted in long lines on the ceiling, so that the ceiling will serve as a reflector. Pressroom illumination, however, is an entirely different problem. Lamps may be installed on either side of the machines themselves.

The requirements for proofreaders are severe also. A condition should not be permitted whereby when the proofreader looks up from a white sheet to a dark area, or vise versa, eyestrain will be caused. In the proofreading room, general illumination should be employed.

Mailing Room Session

SERGE A. BIRN, Consulting Management Engineer, Louisville, Ky., although he spoke Tuesday night upon the scheduled subject, "Mailroom Layout", devoted a considerable part of his talk to an independent engineering approach to the mailing room and bindery in newspaper plants. The first reason for the independent engineering approach to mailing room problems is that plant executives in the business and editorial end do not have the time and many of them do not have the ability to devote to such problems. Plant production and mechanical executives usually are so busy with their production problems that they don't have the time to devote to engineering problems.

Mr. Birn asserted the second reason for the desirability of an independent engineering approach in the newspaper printing industry is that with the exception of conveyors, nearly every machinery and equipment item used in newspaper mailrooms is manufactured by only one or two manufacturers. He referred to automatic wire tying machines, automatic addressing and mailing equipment, stuffing equipment and conveyors between presses and mailroom. He stated, "While the manufacturers of this equipment have done excellent work, there can be no denying the simple fact that lack of competition is a deterring factor to sound engineering development."

To illustrate, Mr. Birn referred to the automatic wire tying operation. Upon examination, he found this operation was not automatic in the sense that engineers would call it automatic. He stated that his associate, Earl Runion, studied the subject of automatic wire tying machines, and in a short time came up with a sketch of a device to automatically feed any automatic tying machine. He stated that patents had been applied for on the feeding device.

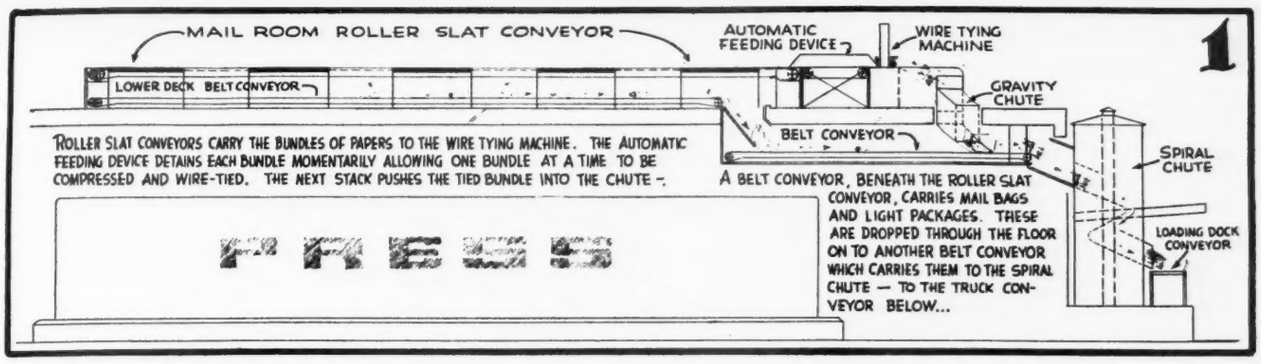
He spoke of three-dimensional planning or three-dimensional layout by means of which small scale models of printing equipment are employed instead of blueprints alone. He stated that one of the reasons for their use is that newspaper executives are called upon to pass judgment on complicated layouts handed to them on blueprints. Usually, these executives are not in a position to visualize blueprints properly. As a result, the average newspaper executive is forced to engage in endless conferences with production men, engineers and suppliers. The three-dimensional layout wipes out all these difficulties.

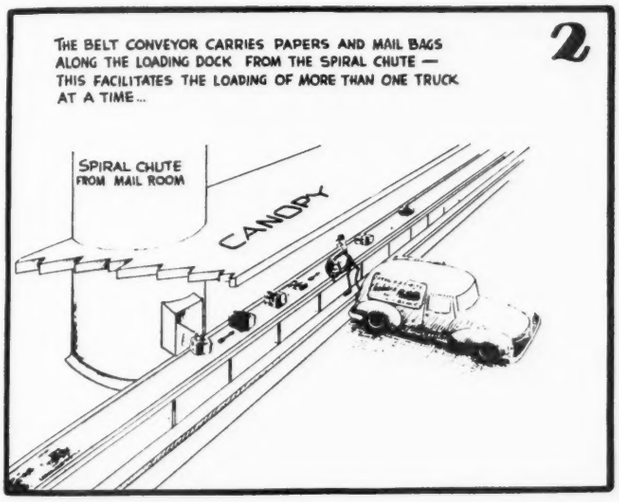
Mr. Birn enumerated the "tools" or the management engineering techniques

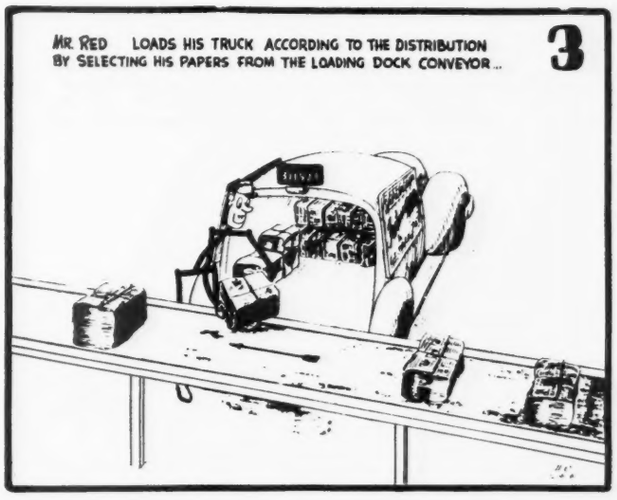
EXAMPLE OF WORK DAY SCHEDULE
TYPICAL DAY AND NIGHT SHIFT

EMPLOYEE	SUN	MON	TUES	WED	THUR	FRI	SAT	REMARKS
JOHN	X	X	X	X	X			MAILER
ED		X	X	X	X	X		"
BILL			X	X	X	X	X	"
TONY	X			X	X	X	X	"
ANDY	X	X			X	X	X	"
CARL	X	X	X			X	X	"
JACK	X	X	X	X			X	"
EARL	X	X	X	X	X			"
TOM		X	X	X	X	X		"
PETE			X	X	X	X	X	"
SAM	X			X	X	X	X	"
JOE	X	X			X	X	X	"
PHIL	X	X	X			X	X	FLY BOYS
AL	X	X	X	X			X	FLY BOYS
BOB	X	X	X	X	X			TRAINEES NON-PRODUCTIVE
JIM	X	X	X			X	X	TRAINEES NON-PRODUCTIVE
MIKE	X			X	X	X	X	TRAINEES NON-PRODUCTIVE

Illustrative Example of newspaper mail room work schedule for typical day or night shift. This chart was compiled by H. E. Runion and was shown in slide form at the recent ANPA Mechanical Conference in Pittsburgh. The schedule, in addition to being kept by the foreman for reference purposes, may be posted on a bulletin board in the mail room.


MAIL ROOM ROLLER SLAT CONVEYOR
AUTOMATIC FEEDING DEVICE
WIRE TYING MACHINE
1
LOWER DECK BELT CONVEYOR
GRAVITY CHUTE
BELT CONVEYOR
SPIRAL CHUTE
ROLLER SLAT CONVEYORS CARRY THE BUNDLES OF PAPERS TO THE WIRE TYING MACHINE. THE AUTOMATIC FEEDING DEVICE DETAINS EACH BUNDLE MOMENTARILY ALLOWING ONE BUNDLE AT A TIME TO BE COMPRESSED AND WIRE-TIED. THE NEXT STACK PUSHES THE TIED BUNDLE INTO THE CHUTE -.
A BELT CONVEYOR, BENEATH THE ROLLER SLAT CONVEYOR, CARRIES MAIL BAGS AND LIGHT PACKAGES. THESE ARE DROPPED THROUGH THE FLOOR ON TO ANOTHER BELT CONVEYOR WHICH CARRIES THEM TO THE SPIRAL CHUTE — TO THE TRUCK CONVEYOR BELOW...
LOADING DOCK CONVEYOR
PRESS


THE BELT CONVEYOR CARRIES PAPERS AND MAIL BAGS ALONG THE LOADING DOCK FROM THE SPIRAL CHUTE — THIS FACILITATES THE LOADING OF MORE THAN ONE TRUCK AT A TIME...
2
SPIRAL CHUTE FROM MAIL ROOM
CANOPY



General Transportation Methods for Newspaper Mailing Room—These diagrams have been reproduced from one of the slides exhibited by H. E. Runion, during his address before the ANPA Mechanical Conference in Pittsburgh, August 6, 1946. Mr. Runion is associated with Serge A. Birn, Consulting Management Engineer, Louisville, Ky. In these three diagrams are illustrated standard stacks of papers, mail bags, and wrapped bundles being transported on conveyors in the mail room, through the floor, out of the building to the waiting delivery truck. In this instance, the mail room is directly overhead the pressroom as is indicated in Fig. 1.

used by men of his type. A list is as follows: (1) scientific time study, (2) systematic methods of work, (3) development of new mechanical equipment for using time studies as a basis to determine minimum and maximum space requirements, machine requirements and personnel requirements, (5) balancing of all operations to assure smooth and uninterrupted flow of work, (6) application of planning techniques such as Gantt charts and Remington-Rand planning boards, and (7) use of three dimensional planning or scale models to lay out departments in the newspaper industry.

Mr. Birn's associate, H. Earl Runion in Louisville, Ky., exhibited a number of slides on a screen showing varying layouts for mailroom operation. He discussed straight-line work flow, space utilization and time study analytical charts, to be made up to handle the varying volume of work in the newspaper mailing room.

With respect to straight-line flow, Mr. Runion stated that the papers should enter the mailroom at one end and leave it in a completed state at the other. Papers in process should be within easy reach of the mailers. Paper handling facilities, such as conveyors, should be adequate in capacity to handle the peak flow. Reverses in work flow should be eliminated. Paper should be transported mechanically. Work tables should not be portable but should be fastened to the processing conveyors or to the floor. Insertions such as rotogravure and comics should be done in direct line of work flow; adequate storage space should be provided as near to the worker as possible.

With respect to space utilization, Mr. Runion stated that care should be taken to provide sufficient space for storage of pre-printed papers at the working areas, but if too much space is provided, it will be almost as bad as not enough. Adequate aisle space must be provided for the transportation of work at the conveyors where the processing is being performed. Space should be provided for future increases in circulation. Lighting, ventilation and convenient rest rooms are important to the workers' comfort. The proper type of flooring should be provided.

In speaking upon a specimen chart which he exhibited in slide form on the screen, Mr. Runion described the utilization of manpower. The objective of this schedule chart is to utilize as advantageously as possible all available time during paper processing. Union agreements, he said, in different localities, will govern to what extent this can be done. Variations in time, quantity and final distribution offer definite problems that require some juggling where manpower is concerned, meaning that an employee may change from one type of an operation to another, as each edition is completed.

He continued, "Shifting from one job to another, although undesirable in some respects, is the only way to keep each employee fully occupied. You will find it necessary to function in this manner if a definite five-day working plan is adopted." He asserted this method of job distribution will offer no hardship on the part of the employee, provided he is well acquainted with what his duties are to be from day to day.

Mr. Runion advocated the posting of a large chart in the mailing room bearing the name of each employee and the work he is to do at a specified time. Another method that may prove to be more desirable would be to issue an individual job card to each employee, describing exactly his duties from day to day or week to week.

Mailing Bench

Oscar Gneuhs mailing foreman of The Cleveland *News*, exhibited a working model and presented a motion picture to explain his new Gneuhs improved mailing bench. The top of the steel bench is fitted with a slot, underneath which is a pocket which is adjustable for the

length of the newspaper bundle wrapper. The wrapper, when placed in the slot, projects about 3 in. from side of the slot, and as the mailer pushes the bundle of papers over the wrapper, the wrapper is pulled in exactly the right position from the pocket. The mailer then placed the top wrapper on the bundle. During the shoving of the bundle of papers with the wrapper which projects from the slot described above, the mailer pushes the bundle far enough centrally over a groove in the bench top. In the groove has been placed a rope or bundle-tying device. The mailer, after placing the top wrapper on the bundle, quickly ties the bundle and shoves the completed package of papers on to the conveyor belt. Mr. Gneuhs stated that the average production for each man with this device would be about four bundles per minute. The bench was designed by Mr. Gneuhs to eliminate entirely the lifting of papers during the wrapping and tying operation.

Menard An Excellent Speaker

Joseph Menard, Mailing Room Supt. of The Des Moines (Ia.) *Register and Tribune*. discussed "The Mailroom—A Mechanical Department", It is the opinion of *Printing Equipment Engineer* that Mr. Menard is an excellent spokesman for his branch of his trade. He has ideals and is a constructive thinker. He reviewed mailing rooms over a period of years and showed the transition from the scissors and hand-stamped type of mailing room had definitely passed and that the mailing room is now a full fledged mechanical department.

Automatic Wire Tying Machine

Howard M. Jampol of The Jampol Co. announced that a fully automatic wire tying machine had been perfected and one of them is in use in the plant of the Milwaukee *Journal*. The machine receives stacks of papers, which are placed on a conveyor belt by a mailer. The machine ties the bundles automatically and then ejects them likewise automatically into a chute leading to the loading platform or truck at the rate of from 16 to 18 ties per min. Mr. Jampol described a telescoping chute which delivers the bundles to the front of the truck when desired. Bundles smaller than bulk delivery, are segregated for separate loading.

In answer to an inquiry, Mr. Jampol stated that designers of the machine are working on the problem for achieving two parallel ties per bundle, which would meet the requirements of the railroads in lieu of a cross tie.

Joseph Wilkinson, Mechanical Supt. of Keith Murdock's Sydney (Australia) *Sun* discussed the improvement in American models of inserting machines in his plant. The machines are used for inserting comics in Sunday papers. In place of the usual needles, vacuum suckers are used in the head of each machine. The machine handles in its present improved form 6000 papers per hour. It is easier to handle a large paper than a smaller one. Mr. Wilkinson stated that 400,000 copies of *The Sun* are inserted on Saturday night for the Sunday edition. Each section travels 2 ft. between heads.

No Action on Plate Problems

The net result of the Wednesday afternoon national advertising plate reproduction meeting of the Pittsburgh ANPA Mechanical Conference seems to be that a number of nationally known men talked about national advertising plates but nothing was done about it. In other words, the meeting took no action to try to remedy reproduction faults in national advertising plates. This situation was only too apparent when spokesmen for two of the well-known triangular group—the publisher, the advertiser and the advertising agency and the mechanical and production man—were brought into the picture. The newspaper mechanical executives certainly presented their case in a graphic manner, and the advertising agency men spoke from their viewpoint. The advertiser and the publisher, however, were conspicuous by their silence, if indeed any of them were in attendance at the meeting. Those in attendance at the meeting were reminded of the old quip: "Everybody talks about the weather but no one does anything about it".

In response to a question from the floor, Mr. Wilkinson stated that the manning of the inserting machine is dependent upon the number of inserts. In a machine with three heads and one delivery, a total of three mailers are employed.

Photo-Engraving Meeting

ON Wednesday morning, August 7, the photo-engraving meeting was opened by Maurice A. Hagan. Mr. Hagan is Photo-engraving Superintendent of the Philadelphia *Inquirer* and a member of the ANPA Mechanical Committee. Mr. Hagan introduced John McMaster of the Eastman Kodak Company. Mr. McMaster then announced that he would show a color film entitled, "Modern Photo-Engraving". The picture presented in detail the production of a four-color process plate. The color separations were made by the indirect method—continuous tone negatives, continuous tone positives and final halftone or screen negatives. Mr. McMaster stated that while direct screen color separations can be made, the indirect method is more flexible; it provides greater opportunity to bring a wide tonal range of the kodochrome transparancy within the practical limits of the printing process.

Jack Kelt, representing the Mallinckrodt Chemical Works, discussed the topic, "Color Plates for Newspapers". Mr. Kelt's discussion was devoted to a simplified talk about simplified color in newspapers. It was an extension of the address delivered at the Cleveland 1944 ANPA Mechanical Conference. The title of that address was "Making Color Plates for Newspaper Printing".[3]

[3]Editor's Note: A summary of Mr. Kelt's address appeared on pages 65 and 66 of the July, 1944 issue of *Printing Equipment Engineer;* see also ANPA Mechanical Bulletin No. 304, dated September 13, 1944, see also the 1945 Convention Issue of the Photo-Engravers Bulletin.

The keynote of Mr. Kelt's discussion was to encourage printing plant executives, particularly photoengravers, to start now by experimenting with the making of simple color plates. Speaking of simple color plates for r.o.p newspaper reproduction, he urged his listeners to start now to get experience and to set up a small color control department, in which place could be learned proper method of etching, proper proofing of plates, retouching operations, etc.

He admonished his listeners who know nothing about color to use waterproof photographic paper, of which there are several brands on the market. The reason for suggesting the use of the waterproof paper is that it holds register at all times. He also said that waterproof paper is used by news feature people because of its fast working quality.

Among other suggestions made by Mr. Kelt were that the experimenters should not crowd too much color into the subject. If one can get away with two colors during the early stages of his learning period he should not use four colors. He said in proofing plates, newspaper ink and newsprint stock should be used so as to get as near as possible an actual effect of the way it will appear when it is printed in the paper.

Finally, he said, "Don't let discouragements stop you. Experience is the only teacher. Color work becomes easy by the actual doing of it. Continued practice and study is the only way through which one can be prepared for color when it comes."

In addition to the simplified specimens of color printing, he showed examples of four-color plates made on zinc which were taken with a one-shot camera. All correction work was done on the prints from each negative. The balance of the work was done just as if it were a black plate.

Powers Color Process

M. J. Gates, Jr., Chemco Photo Products Co. was the next speaker on the program. He discussed "Powers Color Process with Chemco Color Separating and Enlarging Machines". The purpose of this equipment is to furnish finished black and white corrected paper prints which are identical in size, for the engraving department. In the engraving department, the prints are handled as black and white copy, the only care to be taken is that the register of the plates be checked carefully in the stripping.

With the Powers Color Process, which includes two machines, the Chemco Color Separating Machine and the Chemco Enlarging Machine, a newspaper can produce color balanced and color corrected engravings without color correction on the metal in the etching department.

The color etching machine is of the darkroom type, is scale focusing and is constructed of all metal with cold white fluorescent light illumination, either reflected for colored wash or oils, or transmitted light for kodochrome copy. In the case of reflected light such as would be used with color wash or oils copy, the lights are mounted into deflectors which

are attached to and move with the copy board. With kodachrome for copy, which utilizes transmitted light, the light source is a lamp house which is part of the copy board.

Color separation negatives are made on 8 in. by 10 in. glass dry plates with the standard set of color filters. The negatives are color corrected by means of a photographic mask that is employed during the exposure. The mask holder is on the rear of the camera. The mask can be easily and quickly inserted into the holder and focused. Only one mask is used.

Color corrected separation negatives are used with the Chemco Enlarging Machine, which the manufacturer states is a precision, horizontal projection printer, with plate holder that holds the separation negatives and paper easel to hold the photographic paper. The negatives are focused to proper size and sharpness and printed on Chemco non-stretching and non-shrinking photographic paper which is processed like any other photographic paper.

Kodagraph Magenta 60-Line Contact Screen for Photo-Engraving

John McMaster of the Eastman Kodak Co. was invited by Chairman Hagan to discuss "Kodagraph Magenta 60-line Contact Screen for Photo-engraving".

Mr. McMaster said: "Because of the success of contact screens among photo lithographers, interest has been expressed by a number of photo-engravers. As a resul', the Eastman Kodak Company investigated the application of contact screens to the photo-engraving process."

The Kodagraph contact screen is furnished in 60 line. It consists of a magenta dye image in geletin on a photographic film. The halftone dots in magenta 60-line screen are represented by a vignetted area of magenta dye. The screen sizes vary from 8 in. by 10 in. to 22 in. by 23 in.

In use, the screen must be in the closest possible contact with the emulsion furface of the sensitized film. Consequently, a vacuum back of the type used with Kodalith Transparent Stripping Film is used. Stayflat backs are unsatisfactory. Since vacuum backs are scarce, he described briefly how a substitute arrangement could be made by taking a sheet of engraving zinc and routing out a channel around the edges. The sheet is then attached to a pump.

Mr. McMaster stated that one of the outstanding advantages of the Magenta Contact Screen is the ability on the part of the operator to control contrast by means of filters. This avoids the complicated procedure involved in the selection of stop openings and screen distance, ordinarily used with conventional screens. For instance, the Wratten No. 4 filter (yellow) will produce a result lower in contrast than the original, while no filter at all will produce a negative from which the reproduction will be higher in contrast than the copy. Usually, part of the exposure is given with the yellow filter and part with new filter. A flash exposure is also useful in reducing contrast.

The Magenta Contact Screen with the two filters and Kodalith Emulsions has been balanced for use with white flame arc lamps. Kodalith Transparent Stripping Film is especially recommended with this screen and this type of illumination, although Kodalith Orthochromatic Film and Kodalith Thin Base Film will also give excellent results.

Simplified Technique for Newspaper Color

Before introducing Albert R. Bourges, Chairman Hagan introduced Mr. Bourges' daughter, Jean Bourges Mayfield. Although an artist, Jean Bourges Mayfield soon demonstrated in her talk to the mechanical executives that she understood the limitations of newspaper color printing. She admitted that one of the greatest faults of artists is that they use too great a range of color in the copy. They are then disappointed when they see the advertisement reproduced in a newspaper, after which they learn about the limited range of colors possible to reproduce in the newspapers. She reminded the audience that artists have their problems too. She exhibited a number of specimens of color and copy which would serve as typical examples for good newspaper reproduction.

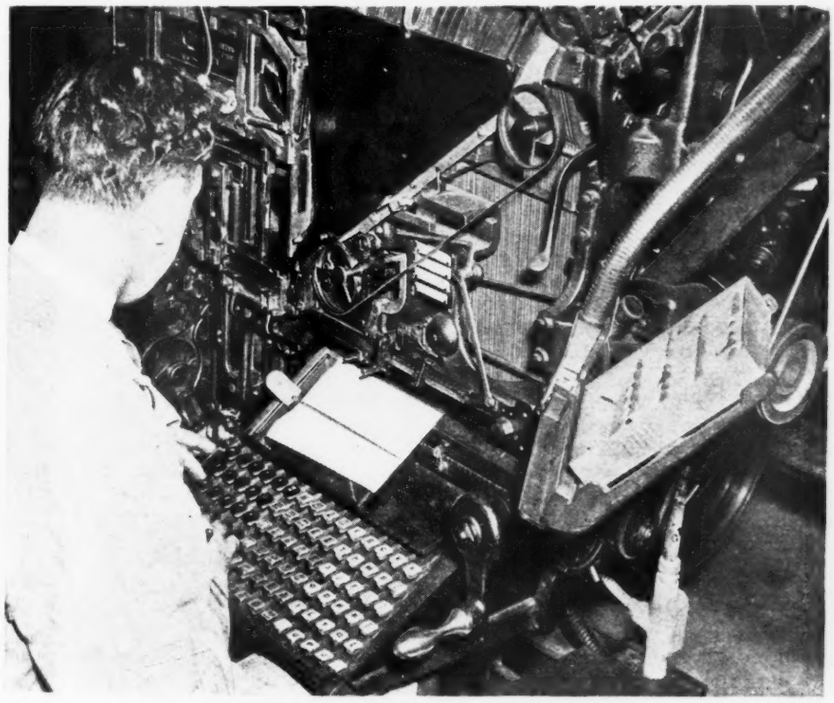
Following his daughter's address, Albert R. Bourges then discussed his simplified color method for newspaper advertising reproduction. They system consists of cellophane sheets to each of which has been applied a coating. The sheets are supplied in a considerable range of color, including black and grays. When these sheets or masks are laid over the original black and white copy, the artist uses a stylus to remove the coating from the color mask leaving only the coating in the shape desired for the color plate. This mask enables the advertiser to see the immediate color effect of the advertisement as it will appear in the paper. The mask, when finished by the artist, also serves as camera copy from which the color plate is to be made. Through the use of the gray coated sheets, highlight and dropout effects in halftones can be secured.

The mask or transparancy, as produced from the Colotone or Solotone sheets supplied by Mr. Bourges, are photographed in the same focus as the black copy to produce the color plates.

Mr. Bourges exhibited a considerable number of newspaper advertisements containing one color which had been produced by his method. He stated that all of the examples shown were never intended to be produced in color, but by his method the value of the advertisement was enhanced. The process is intended mostly for plain color backgrounds. The material can be applied to improved flat black and white copy.

Mr. Bourges believes firmly in two-color work. He feels that the future danger in newspaper color is the excess cost to the newspaper and the excess cost to the advertiser; therefore, his simplified method of color production will encourage the use of color.

Mr. Bourges announced that the first use of Colotone and Solotone masking sheets is now being employed in the photo-engraving department of the Birmingham (Ala.) *News-Age-Herald*.



The Linotype is His Medicine —By prescribing the occupational therapy of the print shop at the Veterans Administration Hospital at Bedford, Mass., psychiatrists not only hasten the recovery of the disabled veteran but also provide him with pre-vocational training in a profitable trade.

National

Advertising Plates

and Color Printing

ON Wednesday afternoon, the National Advertising Plates and Color Printing meeting got under way. Arthur H. Burns, Mechanical Superintendent of the New York *Herald Tribune*, and a member of the ANPA Mechanical Committee, presided.

The first speaker was Stanley Myers, Asst. Mechanical Superintendent of the Philadelphia *Bulletin*. He discussed *Handling National Advertisers' Plates and Mats in the Newspaper Office*. It is apparent that the receipt and handling of national advertising plates in the newspaper plant is of some importance, not only to the *Bulletin* but to other newspapers as well. He described in detail the complete method employed at the *Bulletin* for handling plates from the time of their receipt until final disposal to the junk metal dealer. All packages containing plates are received at the production desk. Immediately upon opening the package, the plates or mats are inspected for defects. If there are defects or damage in plates the early inspection enables something to be done about it. Mr Myers stated the employees in this department have become expert at detecting errors in plates including electros and plastic plates and stereotype mats. Original zinc and copper plates also are examined for defects and transit damage. At the outset, (when the system was installed) he stated, it was necessary to train employees for the job.

An important part of the system is a 4x6 card file. The cards are printed with columns for certain data and enough spaces for 24 plates. Columns are as follows: Date received, space for plate caption, space for number of plate, kind of plate or mat, condition of plate when received. White cards are used for national advertisers, yellow cards for mats of chain store advertisers, etc., and a pink card for record of disposal of material after original entry on the yellow card. A record is kept, too, of borrowed or loaned plates.

A complete record has been kept of 17,000 plates.

Mr. Myers said the system insures that the composing room receives only plates that are ready to put in the form.

In the case of copy of cuts for advertisements, the copy is released to the composing room only after all material for the advertisement has been received at the control desk.

As the result of the installation of the system complaints have been reduced to three or four a week. Before then, the complaints from advertisers amounted to 10 times that number.

He concluded with the statement that 24 man hours per week are required to keep the system going.

Mechanical Executives

The editor invites you to submit production or mechanical ideas which have been devised in your plant. You may help other executives with their work.

Troubles in Reproducing Agency Material

Charles .Kirk, Stereotype Superintendent of the Detroit *News*, discussed faulty national advertising plates as received by newspapers. He illustrated his talk graphically by means of a set of slides prepared by the Rapid Electrotype Co. By means of the slides Mr. Kirk showed many plate faults and also indicated proper condition of plates suitable for newspaper reproduction.

Mr. Kirk reminded his audience that by the time a national advertisement appears in a newspaper, it has had three removals from the electrotype, and in the case of the stereotype, five removals have occurred.

Among the critical comments made by Mr. Kirk with respect to faulty national advertising stereotype mats furnished to newspapers were the following: Lack of depth in cuts and type in electros. Some mats received in newspaper offices are molded shallow from a bad pattern. The plates cast from these mats require considerable hand-cleaning up and tooling. He exhibited some examples of mats that had to be reset in the Composing Room. In some cases, mats were molded in such a way that there was sufficient space depth but not sufficient depth in the bowls of the letters. In the case of a halftone in an advertisement, he showed one example where an engraver had tried to lighten the face of the halftone by re-etching in the highlight dots, with the result that the highlight dots were lost.

Joseph Addison, Pressroom Supt. of the Hartford (Conn.) *Times* approached the microphone with the remark that the general fault with national advertising plates is that of shallowness. He stressed the point that relief printing should be done from the surface and not from the non-printing areas. The people concerned with national advertising plates should keep in mind at all times that newspaper printing is done from a surface plane relieved from its surroundings.

Leon A. Link, Production Manager, Cleveland *Plain Dealer*, stated he had compared a financial advertisement which appeared in 22 newspapers. Mr. Link commented that he could not understand why a great financial institution could be satisfied with the results it is getting from its advertisements in newspapers. Rather heatedly he remarked, "All of them look rotten". He then discussed the national advertising plate meetings which had been held in Detroit and would be held in Cincinnati and Cleveland in the near future, and expressed the hope that through the analytical discussion taking place at these meetings, some relief would be afforded newspapers from the present intolerable situation.

In his opening remarks, Mr. Kirk stated that newspaper advertising plate trouble has shown no improvement recently. He said that if anything, conditions are getting worse. He asserted that it is up to the newspaper people to keep educating those concerned with the origination and production of national advertising plates. He admitted that plates sometimes are damaged in handling in the newspaper plants, but he qualified, "More often, the material furnished is not proper for newspaper use". He asserted that newspapers cannot print with the same material as that which is furnished to magazines.

George Fuller, Stereotype Superintendent of the Cleveland *Press* and President of the Great Lakes Newspaper Mechanical Conference, read a letter received from H. D. Rindsberg, Production Manager of the Cincinnati *Enquirer*, in which Rindsberg suggested that since regular manufacturers must meet customer's specification in furnishing products, newspapers should do the same thing. He stated that newspapers accept bastard sizes in cuts and the national advertising plates are not suitable for newspaper reproduction. He suggested that a standards committee should be set up to formulate standards for mats and plates that are intended for newspaper advertising use. He thought the problem could be turned over by the committee to one of our colleges, who would investigate (1) depth in plate (2) clean etching and (3) routing, etc. Through a course of procedure, the marking of plates by the manufacturer would place the responsibility for any fault in plates where it belongs.

Al Schloegel, Executive Secretary of the International Association of Electrotypers and Stereotypers expressed himself as being glad that the mechanical executives present were going to the source of the trouble in faulty advertising plates. He assured 100% cooperation by members of his association, many of whom furnish plates for national advertising.

Leon A. Link, Production Manager of the Cleveland *Plain Dealer*, wondered how many advertising agencies inspect plates, (electrotypes) before they are sent out to the newspaper. It seemed to him that most of the trouble with faulty national advertising plates is due to a lack of the agency not knowing what the platemaker is sending out.

(*Continued on Page 70*)

Lift Truck Surveys

Offered as an aid to manufacturers with materials handling problems are the illustrated Lift Truck Job Studies published by Towmotor Corp. These studies report in detail the methods used by many manufacturers to speed up the materials handling system with corresponding increases in efficiency and labor-saving economy. Newest in the series is one covering the materials handling methods used by The Cleveland Graphite Bronze Co., producer of lined bearings and bushings for automotive and aviation engines. It is available on request to Towmotor Corp., or *Printing Equipment Engineer* will pass your request along.

Executives of Western Division SNPA Mechanical Conference, hold two-day meeting in Dallas, Texas—Two hundred in attendance

By JULIAN STAG

AFTER a five-year interruption, the Southern Newspaper Mechanical Conference (Western Division) resumed with a two-day session August 19 and 20 at Fort Worth, Tex. Nearly 200 newspaper mechanical executives and manufacturers' and suppliers' representatives from the Southwest attended.

Discussion of technical problems ranged widely. Topics included color printing, plant safety programs, machinists' problems and composing room handling of advertising copy.

A feature of the conference was a detailed paper on *Color Plate Stereotyping* presented by Joseph Goggin of the Goss Printing Press Co., Chicago.

New officers were elected and winter meeting was scheduled to be held in Galveston, Tex., next Feb. 17, 1947.

F. J. Williamson, San Antonio (Tex.) *Express* and *News*, was elected chairman, succeeding C. C. Washburn, Galveston (Tex.) *News-Tribune*, who wound up his war-prolonged term by presiding at the first session. Elected vice chairman was L. W. Culver, Fort Worth (Tex.) *Star-Telegram*. He succeeds R. J. Crawford, Shreveport (La.) *Times*.

Newly elected to the executive committee for three-year terms ending 1949 were J. A. Risher, Oklahoma City (Okla.) *Oklahoman* and *Times*; Leven T. Deputy, Dallas (Tex.) *Morning News*, and Walter J. Dowell, Tulsa (Okla.) *World-Tribune*.

George H. Guthrie, Little Rock (Ark.) *Gazette*, was elected to fill a vacancy on the executive committee for an unexpired term ending 1947.

All sessions and a banquet were at the Hotel Texas. C. W. Tabb, manager of the Dallas office of the Southern Newspaper Publishers' Assoc., served as permanent conference secretary.

William Sefton, Howard Flint Ink Co., Houston, was chairman of the Supply Men's Committee at the conference, and handled arrangements for the banquet given by equipment and supply representatives for the conference participants, and guests.

L. W. Culver, Fort Worth *Star-Telegram*, was chairman of local arrangements for the conference.

Topic leaders for the meeting were: Composing Room, Leven T. Deputy, Dallas (Tex.) *News*; Machinists, Walter J. Dowell, Tulsa (Okla.) *World-Tribune*; Pressroom, Jonn Pollock, Beaumont (Tex.) *Enterprise-Journal*; Stereotype, Roy Durie, Waco (Tex.) *News-Tribune* and *Times-Herald*, and Photo-engraving, Arch Dixon, Oklahoma City (Okla.) *Oklahoman* and *Times*.

W. B. Astor, jr., Memphis (Tenn.) *Commercial-Appeal* and *Press-Scimitar*, member of the executive committee of the Eastern Division Mechanical Conference, invited the Western Div. to meet jointly with the Eastern Div. next year in Memphis. No action was taken on the invitation.

C. Frank Mann, Composing Room superintendent, Louisville (Ky.) *Courier-Journal* and *Times*, and Eastern Div. chairman, spoke on *Better Supervision as a Prerequisite for Good Craftsmanship*. His address was devoted largely to relations between superintendent, foreman and employees. He stressed the importance of executives aiding the men under them in working out their personal problems.

Harold H. Goff, safety engineer, Oklahoma City (Okla.) *Oklahoman* and *Times*, outlined his newspaper's safety program. He pointed out that other newspapers, by adopting similar plans, could cut down the percentage of accidents and resultant work-time loss, and at the same time obtain reduced insurance rates.

Topic leaders for the coming Galveston conference were named as follows: Composing Room Topics, George Woodman, Fort Worth *Star-Telegram*; Machinists, H. H. Harrington, Enid (Okla.) *News Eagle*; Pressroom, E. V. Drodza, Houston (Tex.) *Chronicle*; Stereotype, J. Homer Blackmon, Dallas (Tex.) *Times Herald*, and Photo-engraving, Frank Bavoux, Galveston (Tex.) *News-Tribune*.

Machinists' Session

The machinists' session was held Monday afternoon with Walter J. Dowell, Tulsa (Okla.) *World-Tribune*, discussion leader, in charge.

H. H. Harrington of the Enid (Okla.) *News-Eagle*, made a report on the machinist schedule maintained in his shop. Machinists were general in calling for more and adequate help in order to carry out maintenance schedules. L. A. Sengele of the San Antonio *Express*, says he assigns certain work to various men. In that way he is always able to check back to the responsible person in case of trouble. He reported on a method for lubrication of keyboard cams. He uses a solution of No. 635 graphite and gasoline mixed to consistency of house paint, and uses this solution in place of oil. Two or three days after lubricating cams it is necessary to wash excess graphite from the rubber rollers. He uses glue on the rubber roller shaft to seal ends of rolls against oil and to prevent slipping. In order to more directly apply oil to the proper place he has installed a piece of copper tubing in each bearing, letting it extend through the bearing housing. This prevents excess oil from contaminating the rubber roll.

Robert Dunkerley of the Corpus Christi *Caller-Times*, applies gasoline to the inside surface of the rubber roll when first applying. He claims this causes rolls to go easily on the shaft and prevents slipping.

Charles H. Morris, of the Oklahoma City *Oklahoman-Times*, recommends that machine manufacturers install ball bearings for rubber roll shafts to eliminate oiling difficulties.

Mr. Sengele washes distributor screws in benzole to eliminate oil.

W. J. Dowell asked how to save wear and tear on the last matrix in a line when quadding left and recasting. Mr. Sengele suggested adjusting front and back jaws of the first elevator just as close together as possible and still allow the quadder jaws to operate and the matrices to transfer.

William Fink of the Abilene *Reporter-News* asked about using stereotype metal for making flat casts. Many reported that with this practice the higher tin and higher antimony content metal oftimes gets mixed with line-casting metal with bad results.

Mr. Sengele experimented for some time using wax on some mold wipers and oil on others. After a long period, he reported, matrices in a machine where oil was used on wipers were in no worse shape if as bad as machines where wax was used on wipers. Mr. Morris said wax is compounded with turpentine, a carbonizing agent, which will foul molds and matrices. O. Pucket of the Beaumont *Enterprise-Journal*, and Mr. Dunkerley use 3-in-1 oil on wipers but no place else on machines. Both report best results. Mr. Puckett removes glaze from wiper before applying oil, which keeps wiper soft.

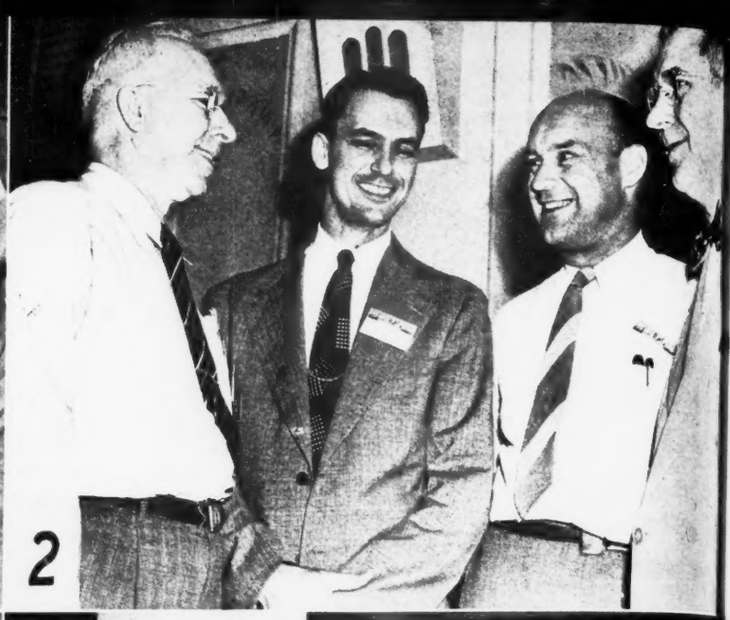
Composing Room

In a composing room discussion, points were made on methods of encouraging advertisers and the newspaper advertising department (dispatch desk) to see that all copy and layouts are readable.

Course of copy was outlined by one participant: Copy reaches composing room, then goes to makeup department, which checks cuts to see that they are there and that copy is legible. If not, it goes to advertising solicitor to remedy. Copy from makeup to composing room is checked for legibility and markup to see that the cuts are there. When it reaches the composing room, it goes into the hands of a man whose sole job is to route the ad for the compositor. It goes to the machines for their part and then back to the compositor. Once corrected proofs are taken it goes to makeup for recheck. Then it goes to the stores to see that it meets their specifications.

Stereotype

Stereotype discussion dealt with average page life of molding combinations. Among those who discussed the subject were Joe Bedell of the Dallas *News*, and F. J. Williamson of the San Antonio *Express*.



At Dallas SNPA (Western Div.) Mechanical Conference — Newspaper Executives take time out to have their pictures taken. These pictures indicate unusual good fellowship.

1.—Time out for a story between sessions at the Southern Newspaper Mechanical Conference, Western Division. Making a point with the cigarette holder is Clyde A. Taber, Dallas (Tex.) *Times Herald* plant superintendent. Lloyd Schenck, manager of the Lufkin (Tex.) office, Perkins-Goodwin Co., sales agents for Southland Paper Mills, is in the center, hugely enjoying himself, and Horace M. Jewell, Fort Worth *Star-Telegram* composing room superintendent, is at left.

2.—Another gay group. C. C. Washburn, Galveston (Tex.) *News-Tribune* pressroom superintendent and chairman of the conference, is in shirtsleeves at left. With him, left to right, are George N. Guthrie, Arkansas *Gazette* pressroom superintendent, of Little Rock, Ark.; James H. Clancy, Niles & Nelson Co., New York, distributors of B. F. Goodrich rollers, and C. Frank Mann, Louisville (Ky.) *Courier-Journal* composing room superintendent.

3.—Conversation could be about ink. William Sefton, manager, Howard Flint Ink Co., Houston, Tex., is in the center, perched on the edge of a table. Others in the group are (left to right) L. F. (Shorty) Byus, Mergenthaler Linotype Co., New Orleans Agency; Orel Harper, Tulsa (Okla.) *World-Tribune* mechanical superintendent; Bert E. Nettles, Shreveport (La.) *Times* composing room foreman, and H. W. Hartman, Houston *Post* engineering department foreman (holding cigar butt).

4.—Shirtsleeves for comfort with these boys. Caught by the cameraman are (left to right) Joe Bedell, Dallas *Morning News* stereotype foreman; Jack Kaether, Amarillo (Tex.) *News-Globe* pressroom foreman; Ed Yagow, Goss Printing Press Co., Southwest sales representative, Dallas; John L. Davis, Southwestern manager, Mergenthaler Linotype Co., New Orleans; George Woodman, Fort Worth *Star-Telegram* mechanical superintendent, and Floyd Young, Tyler (Tex.) *Courier-Times-Telegraph* mechanical superintendent.

Use of creeper, cork and steel was said to produce a sharp mold. Rotating was found to be unsuccessful.

Joseph D. Goggin of the Goss Printing Co., addressed the Texas Conference on *Color Plate Stereotyping*. At the outset of his talk, Mr. Goggin said: "Precision dimensions of the stereotype plate required for r.o.p. color printing impose uniform conditions throughout the principal operations of stereotyping . . . Moisture percentages in mats used for cold molding governs the amount of expansion and contraction in mats. In certain moisture ranges, 1 per cent of moisture variation will produce as much as ⅛ in. difference in measurement. This percentage of moisture can be lost in a few minutes' exposure to low moisture air between the mat humidor and the molding operation. Approximately every 10 deg. F. variation in temperature during casting and finishing operations gives 0.001 in. difference in the measurement of the mat," continued Joseph Goggin.

Mr. Goggin asserted that a knowledge of the precise amount of pressure required in molding with any type of machine (different equipments require different techniques) or any quality of stereotype mat is not important. To be of any value to the stereotyper, the exact amount of surface resistance offered in each individual type form must be known.

"The impression obtained in molding mats for r.o.p. color stereotyping or

Two new members of the SNPA (Western Div.) Newspaper Mechanical Conference executive committee are in this group. They are Leven T. Deputy, Dallas *News* mechanical superintendent, (center, holding program) and J. A. Risher, (with moustache) Oklahoma City *Daily Oklahoman* and *Times*, to his left. With pipe in his hand is Clarence W. Tabb, manager of the Dallas office, Southern Newspaper Publishers Assoc., permanent secretary of the conference. At left end is Irvan Darnall, Muskogee (Okla.) *Phoenix* and *Times-Democrat* mechanical superintendent, and at right end is Walter C. Cooper, manager, midwestern sales, R. Hoe & Co., Inc., at Chicago.

single-color printing is largely a matter of individual judgment of the stereotyper regardless of the type of machine—roller or direct pressure, and with any type and quality of stereotype mat used in molding an impression of the printing surfaces. Theoretically, the correct amount of pressure to be applied at the printing line in molding all classes of stereotype mats, and regardless of the type of molding equipment is the exact amount of pressure which is required to reach the maximum degree of plasticity in the mat at the time of use. Moisture and temperature of the mat are considerations involved in mat plasticity. A lower pressure can fail to yield full impression value, while higher pressures may flatten the printing surface, spreading the images thicker than the original."

Mr. Goggin discussed roller and direct pressure molding techniques as applied to color work. He also discussed ways and means for securing registration in color work during the making of the plates.

Photo-Engraving

In the photo-engraving session, discussion was on use of a heavier bodied cold top enamel for use in the summer months in an engraving shop that does not have air-conditioning.

Chemicals rather than air-conditioning appeared to one speaker to be the question. Inability to purchase satisfactory chemicals was said to be his difficulty.

Use of magnesium metal, especially for standing heads, was recommended. It was pointed out the metal handles comparably to zinc, and routs excellently.

C. H. Larsson, Chemco Photo Products Co., Atlanta, Ga., reported on infra-red light for burning-in and a camera for making separation negatives.

Larsson: Main development is infra-red and color separation machine. Have a burning-in box using 24 infra-red bulbs; 12 bulbs at top and 12 at bottom. Engraver can look in and see just how plate is burning-in. It will burn in from the center. It burns the center black before the sides burn. Using infra-red instead of gas creates less heat in the room. Prints plate evenly.

An interesting development is the separation machine for color press. It makes separation negatives for oil paints or transparencies. Trick is the method of color correction. It uses dry plate negative for mask printing; uses negative mask instead of a positive.

One advantage of the machine is speed. It's in operation daily and averages four complete sets of color separation daily. Kodachrome if used it will average three sets daily. It projects dry plates on waterproof paper so you can handle on any equipment you now have. You can make prints to any size.

Pressroom

In the pressroom discussion, bottom web wrinkling up on the former was considered. One speaker said he packed about 0.005 in. below it slows the web travel enough to get it in without wrinkling.

Another: Drag rollers are worn and have grooves on our paper. That contributes to bottom sheet flowing in as it does. We take 3 in. Scotch tape and put it around the drag roller and it goes in pretty well.

Color use on less-than-full-page area drew lively discussion in the pressroom session.

Paul Tanner, Houston *Post*: Color increases waste. If you do not have equipment on which to run color it is your duty to discourage the publisher. Until we can give a better job than we are doing we are doing a disservice. We are discouraging the advertiser from using color. If we continue to run it the way we are running it today, through black and white without reversible couples, 50 per cent of the color is going out of register. Color is something that is coming. I don't think we will ever compete with the magazines because the time element is too great. I do think we can put out a presentable job if the right equipment is furnished. Until then it is our duty to discourage color.

G. C. Roper, Oklahoma City *Oklahoman* and *Times*: Where we can't give full-page color, give as much as possible on the black cylinder. If we can lay the colors in and get and hold register, then we can have an excuse to believe we can reasonably hold a color job where it will look halfway decent when it comes out. I think we should fight for full-page color.

John C. Pollock, Beaumont (Tex.) *Enterprise-Journal*: Some local stores may want to run a color ad; that is a work of art. This kind of printing should be discouraged. In some instances we are expected to compete with magazines. The best results can only be obtained from the best artists working with the material before it goes to engraving. Advertisers and ourselves are going to have to go into this further. A newspaper press given fair color plates can compete favorably with magazines, but we do not have the paper and the ink. This other type of advertising should be discouraged until we can give advertising pleasing to the eye.

R. A. Torrans, Shreveport (La.) *Times*: I don't know that you can discourage it. The customer wants it. It's here.

Buy Building Plot

Geffen, Dunn & Co. and Omnibook, Inc. have acquired a 220 ft. front plot at 410 E. 53rd St., New York, N. Y., for erection of a building to house their printing and publishing activities.

Maxwell M. Geffen, senior partner of Geffen, Dunn & Co. and president of Omnibook, Inc., stated that a building of about 12 stories is contemplated. The building will be modern in conception, air-conditioned throughout, with interior truck loading facilities.

Divisions of Geffen, Dunn & Co., which will move to the building when completed, include Select Printing Co., William E. Rudge's Sons, Select Multigraphing Service and Round Table Press.

Omnibook, Inc., will move the editorial, circulation and general publishing offices of both its magazines, Omnibook Magazine and Book Reader to the new building.

Members of SNPA Eastern Division Mechanical Conference Executive Committee with Visiting Executives—

1—1945-46 Group—At the time this picture was taken all of the members were not present. Left to right, front row: Louis W. Eidt, Assistant to C. W. Tabb, Secretary, Western Div. of SNPA; I. J. Gardner, sr., (retired) first chairman of the committee; C. Frank Mann, Chairman and Composing Room Supt., Louisville (Ky.) *Courier-Journal* and *Times*; Claude Baker, Composing Room Supt., New Orleans (La.) *Times-Picaune* and *States*; Harvey Capps, sr., Chief Machinist, Jacksonville (Fla) *Times-Union*. Second row, left to right: Walter Johnson, jr., who pinch-hit for his father who is secretary-manager of the SNPA, Chattanooga, Tenn.; I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times*; Henry M. Duke, Mechanical Supt., Charleston (S. C.) *Post-Courier*; Elmer O. Aslinger, Production Manager, Greensboro (N. C.) *News*; Harry Wilson, Stereotype Supt., Birmingham (Ala.) *News*.

2—New Members of Executive Committee—Our apologies to Adam Brice, Pressroom Supt., Miami (Fla.) *News*, for not reproducing his likeness with this group. The negative was damaged by our photo finisher. Left to right above: A. D. Peoples, Pressroom Supt., Raleigh (N. C.) *News* and *Observer*; John Steel, Stereotype Supt., Louisville (Ky.) *Courier-Journal* and *Times*; I. J. Gardner, jr., new Chairman of the Committee—Mr. Gardner is Composing Room Supt. of the Chattanooga (Tenn.) *Times*; R. J. Walker, Photo-engraving Supt., Atlanta (Ga.) *Constitution*; Luther Wright, Mechanical Supt., New Orleans (La.) *Item*. Manager New Orleans Intertype Agency, and C. C. Chadwick, Chairman of Supply Men's Committee which provided the Tuesday night banquet was not present when this picture was taken.

Closely Knit Conference

held by Eastern Division of the SNPA Mechanical Conference — Many technical questions discussed

By STAFF WRITER

A TOTAL of 242 mechanical and production executives attended and participated in the three-day newspaper mechanical conference of the Eastern Division of the Southern Newspaper Publishers Association. The conference was held at Hotel George Washington, in Jacksonville, Fla., on September 2, 3 and 4. The conference originally was organized in 1937. According to C. Frank Mann, chairman of the executive committee, this was the sixth conference to have been held. During the war years the conference was omitted.

New chairman of the executive committee is I. J. Gardner, jr., composing room superintendent of the Chattanooga (Tenn.) *Times*. Mr. Gardner succeeds Mr. Mann as chairman. Chairman of the local Jacksonville committee handling arrangements was Harvey R. Capps, sr. Mr. Capps is chief machinist of the Jacksonville (Fla.) *Times-Union*.

Assisting Messrs. Mann and Capps and the executive committee was Walter C. Johnson, jr., son of Mr. Johnson, sr., who is secretary-manager of the SNPA. Louis W. Eidt, assistant to C. W. Tabb, secretary of the SNPA Western Division, was in attendance at the conference. He assisted Mr. Johnson and recorded proceedings of the entire meeting.

Varied Program

The conference program time was divided into as nearly equal units as possible so that during each day as many of the mechanical departments as possible were given a period in which executives from the various departments could discuss their problems. Thus, the chairmen were shifted for each departmental period.

Pressroom Section

PETER G. PRASSINOS, Pressroom Supt. of the New Orleans (La.) *Times-Picayune* and *States* presided at the pressroom section meetings. The first question to be considered was "Has the synthetic rubber rollers proved successful in the newspaper field?" Chairman Prassinos stated he did not feel that synthetic rollers were as successful as natural rubber rollers. During the discussion, however, it developed that whether sleeve or roller bearings are used has some bearing on the matter. A. D. Peoples of the Raleigh (N.C.) *News* and *Observer* stated he gets first-class results from synthetic rollers. They print sharp and clean and his runs average 95,000. George T. Mitchell, Pressroom Supt. of the Louisville (Ky.) *Courier-Journal* and *Times* observed he had used synthetic rollers for eight years and believed them to be entirely successful. He feels they grind much better than natural rubber rollers. However, they will column cut from use. W. L. Knighton of the Birmingham (Ala.) *News* stated he has used synthetic rollers for five years and at the present time he is using both synthetic and rubber, but doesn't find a lot of difference in the performance of the two kinds of rollers. R. B. Hackman of the Atlanta (Ga.) *Constitution* said he had rubber rollers in use that were over 20 years old. He queried, "Will synthetic rollers last as long?" He asserted that rubber rollers have more resiliency than do synthetic rollers. Derrill S. Hart, Pressroom Supt. of the Tampa (Fla.) *Times* has used synthetic rollers for fifteen years as vibrators. His average running speed is 28,000 to 30,000 papers per hour. He finds them very good for this purpose. Chairman Prassinos, however, differed with his colleagues by stating that synthetic rollers work good for six months and then start to fill up with a kind of grit, the face roughens and won't

polish in the grinding. He asserted they are not as durable as rubber.

In answer to the question "When printing large letter headlines, why, in some instances, is the foot of these large letters grayer than the head?" W. L. Knighton stated that when the presses started, the roller drags and causes the wiping effect upon the letters. In order to avoid this effect, the press should not be slowed down too fast, in order to prevent ink piling on the drum. It's a question of slippage of the form rollers. Form rollers should not be set too heavy on the plate.

Some discussion was had on the setting of rollers for best results. R. B. Hackman asserted that the weight of any roller determines the drag of the roller. A 6 in. roller should be set about 7/16 in. or 5 lines. The setting can be accomplished through a sense of touch by using manila paper 0.005 in. thick as a feeler when drawn between the roller and plate.

Mr. Prassinos described his method of setting rollers with slip sheets in order to check the setting. For instance, on two form rollers, the first one is thrown off and the roller is set as usual by means of slip sheets. Then the presses are turned one, two or three revolutions. If set properly, the roller will print OK. The process is repeated in reverse for the other roller. He stated that he sets 6 in. rollers from 5 to 6 lines; 7 in. rollers from 6 to 6 1/2 lines and rollers of smaller diameter from 4 to 4 1/2 lines. R. B. Hackman stated all of his rollers are ground straight to check the setting. Rollers are wiped off in a spot for two or three inches and if the roller takes ink, the setting is OK.

In the second section of the Pressroom Session, E. G. Morrison of the Goss Printing Press Company delivered a paper on the new postwar Goss press and Tensionplate lockup (further discussion by Wallace Granger on page 32 ANPA Mechanical Conference Report, this issue of *Printing Equipment Engineer*.)

In response to a question asked from the floor, Mr. Morrison stated that in the case of plates which must be registered for color on the new Goss Tensionplate Lockup, there are no end clips in the device. The plate is easily slid lengthwise Instead, however, there are a series of spring steel clips, any of which the plate can be slid against. With respect to adjustment of the plate around the cylinder, the locking fingers on the leading edge of the plate can be adjusted to obtain position of the plate.

Earl Lacure, Field Engineer of the Duplex Printing Press Co. addressed the conference on the postwar Duplex Printing Press. The resume of his remarks, which were similar in every respect, will be found on pages 33 and 34 of this issue of *Printing Equipment Engineer* in connection with the ANPA Mechanical Conference report. He stated that printing press manufacturers are "ahead of the gun" and it is time now to improve the stereotype plate, inasmuch as some plates weigh from 48 to 56 pounds and the bottom half of the plate is lighter than the top half.

The next topic for discussion was related to two-piece blankets, and the query was made "Should the top blanket be softer or harder than the under blanket?" A. D. Peoples of the Raleigh (N.C.) *News* and *Observer* stated that because of lost motion in the bearings on his press, he gets better results by putting a hard blanket on the bottom and a soft blanket on top. The first impression blanket does not receive as severe wear as does the second impression blanket. He uses felt on the first impression and a coated felt on the second impression. When using three-piece combinations, he applies two 1/16 blankets, with a 0.025 in. draw sheet on top. In the case of the two-piece blanket, he uses a 12th in. non-felt blanket for the top, with a 16th in. for the bottom.

Chairman Prassinos agreed with Mr. Peoples by stating that he uses a harder blanket underneath in the case of the two-piece blanket. He uses 0.115 in. to 0.152 in. total packing on new and old presses. After two weeks running, the packing is reduced to 0.145 in. to 0.148 in., and in six months time, the blanket reaches 0.140 in. and stays there for the life of the packing.

With respect to the question of press blankets curling on the cylinder, R. R. Fulton of the Roanoke (Va.) *Times-World*, stated as blankets are used, they stretch and get thinner. Careful original punching when the blanket is first applied, goes a long ways in preventing this trouble. He squares the long edge of the blanket to prevent thinning in the center.

One delegate stated that on a press running up to 36,000 impressions an hour, the two-piece blanket is OK. Above 36,000 impressions per hour, he uses three-piece combination with a rubber bottom, a cork and draw sheet on top. It is harder to get down into the bowls of type with a hard blanket on old presses. With the new presses, however, one doesn't lose impressions.

The elimination of trolley, nipping and folding roller marks with today's narrow margin on newspapers, came up for discussion. A. D. Peoples suggested cutting down plates to get the necessary white space, to which R. R. Fulton observed. "Yea, then they'll want to cut down the newsprint some more to a narrower roll width".

With respect to the practicability of underlaying cuts on a plate, it seemed to be the general consensus of opinion that such underlaying is a makeshift at best. None of the speakers who discussed the subject claimed to have obtained good results, but spoke as though they employed underlaying as a palliative in an emergency. Lew E. Price of Certified Dry Mat Corp. stated underlaying is not practical. If the engraving and stereotype departments are doing their jobs, underlaying is seldom necessary. Bearings and rollers on presses should be set properly to avoid lost motion. Mr. Price said that in "bumping up" plates, we are only kidding ourselves. The trouble with respect to low halftones in the plate should be remedied in the stereotype room. He also recommended more frequent change of press blankets. Mr. Prassinos observed that the only time he underlays a cut in a plate is when his blankets have become beaten down. He added that during the next day where a plate had been underpacked or underlayed, the depression on the blanket would show up in the print.

Composing Room Session

LUTHER WRIGHT, Mechanical Supt. of the New Orleans (La.) *Item* presided at all of the composing room section meetings. In answer to the question, "Should the paper be laid out or dummied in the advertising department or the composing room?" Chairman Wright stated that this is a local condition. In his plant, he stated the first edition is at 9:15 in the morning. The makeup man comes in at 2:45 in the afternoon. This man is familiar with the general conduct and content of the paper. He places the foreign ads and news spaces on even pages. The ads that can be left out are marked. The paper is laid out according to an ad and news budget. He observed, however, that he believes the responsibility for advertising positions should rest with the advertising department.

Claude L. Baker, Composing Room Supt. of the New Orleans (La.) *Times-Picayune* and *States* said the layout of the paper is done in the dispatch room. He has a similar system to that of Mr. Wright in that the pages are dummied. All ads are scaled from the bottom of the page upward with respect to size. All pages are dummied at 2:00 in the afternoon for the next morning paper, and at 4:00 in the afternoon for next afternoon's paper. He works direct with the advertising department. The responsibility for making up the paper does not rest with the composing room.

With respect to the use of the steel hairline rules in classified ad columns, Mr. Wright observed that he uses a double face rule, inasmuch as these can be bought for the same price as a single rule and no complications are involved in getting the right side up in makeup. H. R. Capps, Machinist of the Jacksonville (Fla.) *Times-Union*, observed that in his plant the single face rule is used, but in order to avoid getting the wrong edge up, one corner of the bottom of the rule is snipped off at an angle. In answer to the question about magnetism in steel-face rules, in plants where the rules are extracted by magnet from the breakup, Claude Baker observed that no trouble had been had with magnetism of any kind in the rule which would cause them to stick together.

Chairman Wright observed that his advertising manager wanted to go back to 2 pt. body rule in the classified section, because of better appearance and readability. Claude Baker, in answer to an inquiry as to how steel rules could be kept clean, stated that periodically all

of the steel rules are soaked in kerosene and dried with compressed air.

Considerable discussion was generated by the topic. "What is the best method of storing news features and advertising set in advance of publication date?" Solutions offered from the floor by several executives varied according to whether or not composing rooms operated two dispatch rooms. Claude Baker described the system in use in his plant for the *Times-Picayune* and *States*. The listing is made on pads according to the copy lines and is given a take number. The take number appears on the copy and also on art and feature copy that comes in in advance. After the proofreader has read the article, the type is put in a rack on a galley bearing the same number as appears on the proof and on a pad record which is kept. He explained that separate pads are used for the morning, afternoon and Sunday papers. Advertisements are listed by dates in the same way.

C. L. Ray, Supt of the Winston Salem (N.C.) *Journal-Sentinel* says that he does not operate a dispatch room, but in his plant, a low slug bearing the dates, is put on the galley with the type matter.

S. K. Trunnell of the Roanoke (Va.) *Times-World*, says he has recently established a new envelope system. An advertisement is put in a slide which bears the same number as the envelope, which contains the proof and the copy. The article or ad is entered on a record bearing the corresponding number to the slide and the envelope. The publication time is marked on the master list. This makes it easy for the makeup man to get out any advertisement. He said he had recently cured one of the weaknesses of this system by furnishing little flag clips so that when an ad had been pulled out for correction, no one else would put another ad in the slide which was temporarily empty. The little flag warns the ad men not to put an ad in the slide.

C. Frank Mann, Composing Room Supt., Louisville (Ky.) *Courier-Journal* and *Times*, stated it took him 15 years to find out that proofreaders don't file properly. As a consequence, all filing operations have been transferred to the dispatch room where a boy files the ads and a girl takes care of all news article filing.

Ray Schoedler, Composing Room Supt., Tampa (Fla) *Times*, discussed in a graphic manner the composing room cost system in use in his plant. He stated that sometimes the bone of contention was, what should be charged to the composing room. He felt that all material produced in the composing room should be charged on a production base, whether it is used or not.

Chairman Wright observed that above the copy desk in his composing room there is a rack consisting of six pigeon holes. The head proofreader marks publication date on the proof and also on the outside of the copies in which the proof is read.

On Tuesday morning, under the composing room section of the conference, Vice President Charles H. Stout of the Matrix Contrast Corp., exhibited a movie by means of which the advantages of matrix contrast process applied to line-composing machine matrixes helped the operator do better work and increased visibility of the letter characters, thus reducing errors in original composition. For some time, Matrix Contrast has used a color code for the reference characters on the fronts of the matrices. These colors may be supplied in green, red, yellow, orange and violet.

John Davis, Manager New Orleans Agency, Mergenthaler Linotype Co., read the paper and showed slides which had been prepared by Vice President Harry L. Gage. This address was like the one delivered by Mr. Gage at the Pittsburgh ANPA Mechanical Conference—see page 27 this issue of *Printing Equipment Engineer*.

Considerable discussion took place upon the perennial question of making up the paper on trucks or tables. It seems that upon a show of hands, at the request of Chairman Wright, the majority of composing room executives use trucks but some use tables. Claude Baker stated that in his plant, makeup is done completely on trucks because he thinks it is a waste of time to slide the forms on and off, from table to truck and vise versa. C. Frank Mann discussed the arrangements of trucks in his plant at the *Courier-Journal* and *Times*. He said a rack had been devised in his plant, and all makeup materials are stored underneath the truck within the frame work. He has ordered 40 new trucks, and when these arrive a total of 120 trucks and chases will be used in his composing room. The makeup man fills up the material trays during his spare time. Claude Baker added that in his plant the page trucks are lined up on either side of material storage racks which are slightly higher than the truck. Fluorescent illumination is used immediately over the page area of the trucks.

O. W. Asbell of the Ludlow Typograph Co., discussed postwar Ludlow equipment. He said his company had no startling announcements to make. At the present time, the great problem is to get materials to fill present orders. His company hopes to catch up with present orders within a reasonable time. He asked users to take care of their equipment. He stated that five out of ten calls made by Ludlow service men could have been eliminated by the use of a wiping rag and an oil can.

Several executives explained their ad alley copy markup system, in response to a question presented by Chairman Wright. Loran M. Gilbert, Composing Room Supt. of the Savannah (Ga.) *News* and *Evening Press*, C. Frank Mann, Composing Room Supt. of the Louisville (Ky.) *Courier-Journal* and *Times* and Ray Schoedler, Composing Room Supt. of the Tampa (Fla.) *Times* explained their systems. Mr. Mann remarked that it would be a good idea for a composing room executive wishing to install a markup system to collect a copy of the system used in each of several representative papers, and then go over all of the systems and devise one suitable for his own plant. This seemed to be a sensible idea, inasmuch as different shops have different equipment and vary considerably in size.

Composing Machine Maintenance

THE Composing Machine Maintenance meeting convened Monday evening after adjournment of the afternoon conference session. MacD. Sinclair was topic leader. The meeting was characterized by lively and interesting discussion and lasted two hours. On Tuesday evening, the session was reopened after request for the continuance had been granted by the Executive Committee. This session, also, lasted for two hours. Since there were a number of machinists, foremen and others, including representatives from some of the equipment and supplier houses, it was felt that the clinic should be continued for the second session, and that some of the men charged with maintenance of composing machines would obtain real benefit. Perhaps a total of seven topics received attention in the four hours, but each was discussed thoroughly.

Sunken slugs, their causes and remedies, was one of the first topics to be presented. Harvey Capps, of the Jacksonville (Fla.) *Times-Union*, enumerated a number of suggestions for adjusting the machine to cast solid slugs that will withstand stereotype molding pressures. Among the suggestions were: Proper metal and mouthpiece temperatures; mouthpiece jet holes should be kept clear and clean, but the holes should not be enlarged; the latter observation was made because if the holes are enlarged to any extent a greater volume of metal will enter the mold cell at the time of casting a slug which in turn will provide less time for the air to escape from the mold; the mouthpiece vent slots should be maintained at their full width but should not be deepened in the center; the pot pump plunger should make its full downstroke (sometimes a ring of oxide or dross forms at the lower part of the crucible well after small slugs have been cast for a while, thus preventing full downstroke of the plunger when the operator changes over the machine to cast large-bodied slugs; the vent in the plunger should be kept open to provide full downstroke at all times; the extra mouthpiece jet holes should at all times be located in the center of the ribs of the mold to permit free flow of the metal.

John Davis, manager of the New Orleans Agency, Mergenthaler Linotype Co., added that if the operator could not be persuaded to slow down operation of the machine when casting any quantity of headletter slugs at a time, it would be a good idea to change the motor driving pinion so the machine would run at 6⅓ lines per min., instead of the customary 7 or 7¼ lines per min.

Among those attending the Composing Machine Maintenance Clinic were the following (front row, left to right): W. T. Slusher, Machinist, *Times-World*, Roanoke, Va.; P. R. Stillman, Machinist, Greensboro (N.C.) *News;* John L. Davis, New Orleans Manager for Mergenthaler Linotype Co.; Harvey Capps, sr., Chief Machinist, Jacksonville (Fla.) *Union-Tribune;* W. A. Perkins, Composing Room Supt., Capitol City Pub. Co., and W. H. Perkins, *News-Democrat*, both of Tallahassee, Fla.; Gerald Hunter, Sales Manager and Chas. H. Stout, Executive Vice President, Matrix Contrast Corp., New York; D. L. Bost, Composing Room Supt., Jacksonville (Fla.) *Times-Union;* Harvey Capps, jr., Machinist, Savannah (Ga.) *News;* Frank Buck, Composing Room Supt., Clarksville (Tenn.) *Leaf-Chronicle;* Fred L. Morris, Machinist, Kingsport (Tenn.) Pub. Co.; H. M. Yandle, Greensboro (N.C.) *News;* Ellis Speer, Composing Room Supt., Raleigh (N.C.) *News* and *Observer;* Everett Miller, Linotype Parts Co.; George Downes, Chief Machinist, New Orleans (La.) *Times-Picayune* and *States;* P. A. Seigler, Albany (Ga.) *Herald;* Perry A. Thompson, Fredericksburg (Va.) *Free Lance-Star;* T. M. Dorris, Teletypesetter Corp.; E. L. Honeycutt, Machinist, High Point (N.C.) *Enterprise;* Ed Acuff, Machinist, Knoxville (Tenn.) *Journal;* J. Paul Horton, Mechanical Supt., Wilmington (N.C.) *Evening Post*.

During the discussion, it was brought out by Ed Acuff, machinist of the Knoxville (Tenn.) *Journal*, that a machine is equipped with 24½ pica, 24 pt. headletter at one time. The system of running out copy is such that pressure is put on the operator to produce the slugs as rapidly as possible. The result is that the mold's temperature is drawn in a few months' time. When the mold is sent in for repair, a report is received that the mold has lost its hardness and must be replaced. The only remedy here is slower operation of the machine, not alone for preserving the useful life of the mold, but to provide more solid slugs which will resist stereotype molding pressure. Another point stressed is that the machinist should not adjust the plunger lever spring to exert maximum force of the plunger downstroke. Some machinists deliberately weaken the spring tension to slow down filling the mold cell and to permit maximum escape of air through the mouthpiece vents.

Procedure for replacement of mold disk locking studs and stud blocks on line-composing machines was outlined by Harvey Capps. First and most important is the adjustment of the mold disk slide itself because this adjustment is a fixed one and should be made before attempting any other work necessary to the replacement operations. The mold slide should be given a bearing at the top against the machine column by the mold slide support adjusting screw at the left side of the arm; the screw should be adjusted until there is not more than 0.007 in. space between the lower right-hand surface of the slide and the left side of the machine column; all play should be taken out of the mold disk bearing itself; the first elevator slide gibs should be adjusted to provide "snug" travel of the slide from normal, to casting to transfer positions the gib screws should be pulled up very tight. The machinist then removes a mold cap and the knife block, and mold body is placed in its regular position in the mold disk pocket. The locking studs are fitted into the mold disk. The stud blocks are placed in the vise frame but the dowel pins are left out. The machine is then placed in ejecting position and the ejector slide is moved forward sufficiently so that the blade is opposite the constant side of the mold body. By tapping the locking stud blocks, the mold and ejector are lined up until there is a space of at least 0.003 in. between the mold and ejector blade. The next operation is to line up the first elevator jaw with the mold so that on a full 30 pica line each end matrix will engage the mold aligning groove with equal tension. Other detailed operations were outlined in connection stud and stud block replacement. Among them were that if there is a groove worn in the underside of the mold slide supporting block from the supporting screw, the groove should be dressed from the block. It may be necesssry to redowel the stud blocks in the vise frame and plug up the original dowel holes because the block may be shifted to a slightly new position. Parallelism of the first elevator jaws and the mold aligning grooves is obtained by piening one side of one of the keys in the first elevator jaw head and dressing the other side until parallelism of the jaw rails and mold aligning grooves has been obtained.

Adjustment of the back trimming knife was explained. The mold disk guide blocks should always be set up to take up any outward movement of the disk which may occur at the time the slug is being trimmed. The right-hand knife adjusting screw (when one is facing the machine) controls the trim of the center part of a 30 pica slug, and the outside or left-hand adjusting screw controls the trim of either end of a 30 pica slug.

It was suggested that a more or less rule-of-thumb method for obtaining mouthpiece temperature could be obtained by drawing the corner of a machine-cast rule or 6 pt. slug slowly across the mouthpiece. As the slug is slowly drawn across the mouthpiece a slightly tinning action of the mouthpiece in contact with the slug will occur if the mouthpiece is of proper temperature. It was also explained that a contact pyrometer for testing mouthpiece temperature might be available next year.

Spaceband cleaning and polishing machines were discussed. It seemed to be the consensus of opinion that because spaceband cleaning is a drudgery operation a machine for doing this work is highly desirable. Everybody present agreed that spaceband cleaning is an inflexible requirement in plant maintenance operations and a mechanical substitute for the well known "elbow grease" is really essential.

Considering the present "tight" matrix situation, considerable discussion took place with respect to repairing matrices. It was demonstrated by Harvey Capps, sr., by means of a tool repair kit how principally the lower lugs could be expanded to some extent to take up normal wear. The average maximum allowable wear across the span of the two lower lugs is approx. 0.020 in. A caution was made, however, that when matrix lugs wear much more than 0.020 in. the matrices should be discarded if the lugs can not be restored somewhere near the original ¾ in. span from lug to lug, because of liability of causing clogs in the channel entrance due to thinning the lugs. It was also explained that if matrices "ride" the escapement verges in the magazine or if they overlap in the magazine channel, matrices should be discarded or repaired.

John J. Bentley, Mechanical Superintendent of the Savannah (Ga.) *Morning News*, explained a method of shrouding motor fibre driving pinions to keep them from working loose on the motor shaft.

George Downes, New Orleans *Times-Picayune* and *States*, in response to a query explained the function and maintenance of back and front mold wipers. He stated he uses Elrod rule mold oil with graphite

on the back wiper felts. The front wiper felts occasionally are brushed thoroughly with a wire brush and a mixture of mineral spirits and graphite is rubbed into the felts. A few, however, stated they do not use anything on either front or back wiper felts. They stated they prefer letting the felts "do all the work."

Stereotype Session

TOPIC leader for the Stereotype Session was John C Steel, Stereotype Supt., Louisville (Ky.) *Courier-Journal* and *Times*. S. F. Elrod, Stereotype Supt. of the New Orleans (La.) *Times-Picayune* and *States*, led off the discussion by stating that hard cork blankets are better for molding purposes. He uses a creeper with cork on different mats. If the creeper is not used, it seems that trapped air occurs in the plate cast. J. S. Black, Stereotype Supt. of the Tampa (Fla.) *Tribune* corroborated Mr. Elrod's remarks. Chairman Steel stated he had trouble in the summer with blankets softening because of the humidity present in the air. Mr. Elrod suggested changing blankets more often. Harry Wilson, Stereotype Supt. of the Birmingham (Ala.) *News* and *Age-Herald* stated that a soft blanket will become softer than when originally received. He uses the soft creeper with ¼ in. cork. He starts with a dozen corks and rotates at the rate of two a day. He uses the other cork on the next form and keeps all the corks as dry as possible. The felt creepers are washed once a week and are hung up to dry. Chairman Steel substantiated Mr. Wilson's plan for rotating and care of molding combinations. Mr. Elrod observed that every mat requires a different combination and that every stereotyper must work out his own technique. Mr. Black stated the next best thing to bumping up by direct pressure, as explained by Harry Wrasse, Stereotype Supt. of the Milwaukee *Journal* at the Pittsburgh ANPA Mechanical Conference is to use a hard cork. The purpose here is to try to get the same thickness in halftone areas the same as over the rest of the form.

With respect to the proper depth of mold, Harry Wilson of the Birmingham (Ala.) *News* and *Age-Herald* stated that he applies sufficient impression to the roller to cut the mat and then backs off the impression sufficiently to get maximum mold in the mat without damage to the form.

S. F. Elrod, Stereotype Supt. of the New Orleans (La.) *Times-Picayune* and *States* discussed the registering and casting of color plates in the stereotype department for use on presses equipped with automatic lockups. In other words, Mr. Elrod pre-registers all color plates in the stereotype department before sending them to the pressroom. Because it is an usual procedure, his remarks are given in full as follows:

"The black or key plate is prepared first. Headless pins are inserted in the holes that have been bored previously by the engraver. We add register crosses at the top and bottom of the page. These register marks are located in open spots on the cut so they can be anchored to the base. We next remove all cold top enamel on the cuts with lye water. The form is now ready for molding.

"We bake all colors on a direct pressure machine using plastic mats. The most suitable cushion for this purpose, I found, is one sheet of blotting paper, one Molleton Blanket, eight to ten sheets of felt drying paper, using a pressure of 1800 lbs. per sq. in., we then back the machine off to approximately 100 lbs. per sq. in. holding pressure for ten to fifteen minutes drying time. All mats are handled alike through the trimming and Sta-Hi Process and extreme care is exercised in casting.

"Next we register the colors on the curved plates before they are sent to the pressroom. If we find any variations we immediately correct them, thus insuring the pressroom of perfect registration. In registering the curved plates, an old finishing block is used. I had an old ring from a press cylinder bolted to the one end and a locking clip fastened to the other. I can lock up a plate on this block in the exact manner that it fits on the cylinder in the press. A large sheet of celluloid, approx. 0.020 in. thick is fastened on one side of the block by hinges, this is pulled over the plate and fastened down tight on the other side. We then trace the registration marks on the celluloid with pencil and any other characters that would seem to be a close register. Then as succeeding plates are placed on the block they have to conform with the pencil marks on the celluloid to be in register.

"After registering is completed on the registering block in the stereotype room, a small hole is bored in the ring side of the bevel. This hole is centered between plate bevel and ring so that only one-half of the bored hole remains on the plate, the corresponding half having already been located on the rings of the press cylinders. This enables the pressmen to place each plate in exact registering position on the cylinder. In case of having to remove plate for shimming, he can again place the plate in its former position, which eliminates all guess work.

"You are probably wondering why a hole has been used rather than a mark or

Some Executives in Attendance at SNPA Eastern Division Newspaper Mechanical Conference— The conference was held in Jacksonville, Fla., on September 2, 3 and 4. Most of the program was devoted to personal discussion with respect to executives' plant problems. All persons in this layout identified left to right.

1—C. H. Queen, Mechanical Supt.; Ken Miles, jr., Photoengraving Foreman, and J. L. Yates, Pressroom Supt., all of Greenville (S. C.) *News-Piedmont*.

2—Everett Miller, Linotype Parts Co., demonstrates sensitivity of new composing machine metal pot thermostat to Gerald Hunter of Matrix Contrast Corp., and Raymond A. Bowles, Mechanical Supt., Columbus (Ga.) *Ledger-Enquirer*.

3—Miss Anne Walker; George Stone, Composing Room Supt., Atlanta (Ga.) *Constitution*; Miss Caroline Edens.

4—Mrs. and Mr. S. K. Trunnell, Composing Room Supt., Roanoke (Va.) *Times-World*; I. J. Gardner, sr., Chattanooga, Tenn., who recently celebrated his 82nd birthday, and he's happy because his son I. J., jr., was selected chairman of the SNPA Mechanical Dept. Executive Committee; Mr. and Mrs. Harvey Capps, sr., Chief Machinist, Jacksonville (Fla.) *Union-Tribune*.

5—Mr. and Mrs. L. K. Furguson, Danville (Va.) *Bee*; Mrs. and Mr. John W. Tate, Danville (Va.) *Register*; J. R. Dowdy, jr., Composing Room Supt., Durham (N. C.) *Herald-Sun*.

6—T. M. Dorris, Teletypesetter Corp.; J. R. Dowdy, jr., Mechanical Supt., Durham (N. C.) *Herald-Sun* Papers; Vance McGhee, Mechanical Supt., High Point (N. C.) *Enterprise*.

7—J. T. Stibor demonstrates the Doall Zephyr High-Speed Sawing Machine for cutting stereos to E. L. Honeycutt, Machinist, High Point (N. C.) *Enterprise*; H. M. Yandle, Composing Room Superintendent and P. R. Sillman, Machinist, Greensboro (N. C.) *News-Record*, and to F. B. Lond, Mechanical Superintendent, Martinsville (Va.) *Bulletin*.

8—L. W. Devine, Mechanical Supt., Anniston (Ala) *Star*; W. G. Galloway, Gadsden (Ala.) School of Trades.

9—Curtis Apple, Pressroom Supt., Winston-Salem (N. C.) *Journal-Sentinel*; J. O. Powers, Composing Room Supt., Gadsden (Ala.) *Times*; C. C. Chadwick, Manager, New Orleans Agency, Intertype Corp. Mr. Chadwick was chairman of Supply Men's Committee which provided banquet Tuesday night. William Ford, Head Proofreader, (Ala.) *Post*.

10—Two of the Topic Leaders. (Left to right): Luther Wright, Mechanical Supt., New Orleans (La.) *Item*, who conducted the composing room section, and Peter G. Prassinos, Pressroom Supt., New Orleans (La.) *Times-Picayune* and *States*, who conducted the Pressroom section discussions.

11—Standing by the scale model building for new plant of Louisville (Ky.) *Courier-Journal* and *Times* are Earl Runion of Serge A. Birn; J. F. McCartney, Composing Room Supt., Birmingham (Ala.) *Age-Herald*, and Serge Birn, Industrial Management Engineer.

12—Howard Felix, Imperial Type Metal Co.; Frank Buck, *Leaf-Chronicle*, Clarksville, (Tenn.); I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times*; J. M. Fant, Imperial Type Metal Co.; B. W. Phelps, Composing Room Supt., Florence (Ala.) *Times*.

13—E. C. Morrison, Pressroom Supt., Jacksonville (Fla.) *Times-Union*; Floyd Elrod, Stereotype Supt., New Orleans (La.) *Times-Picayune* and *States*; W. A. Wetherell, Wood Flong Corp.; S. F. Black, Stereotype Supt., Tampa (Fla.) *Tribune*; Josef E. Wilson, Beveridge Paper Co.; Charles A. Neigel, Pressroom Supt., Mobile (Ala) *Press-Register*.

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a score. A mark is hard to see and there is no assurance of accuracy. The pressman can hold a small pin the same diameter as the hole in the end of the plate and slide the plate over to the ring until the pin engages the small hole in the ring side, thereupon locking the plate up and removing the pin, he can be absolutely sure the plates are in position for exact registration."

At the Wednesday morning stereotype section of the conference, Chairman Steel stated that the stereotypers in a separate session recommended individual shops contact manufacturers of line-composing machines to increase the depth of the shoulders on slugs. The idea is to eliminate the necessity of rubbing the high shoulders back on the mat while it is being prepared for casting.

Chairman Steel also reported that the stereotypers requested Walter C. Johnson, Secretary-Manager of the SNPA to register a complaint with advertising agencies as to the quality of advertising plates which are being furnished to newspapers in the conference area.

Young Discusses Newspaper Run-of-Paper Color Printing

Louis D. Young, Advertising Director of the Indianapolis (Ind.) *Times* presented a "colorful" address and exhibited many fine examples of newspaper run-of-paper color printing, during the stereotype meeting on Wednesday morning. (See page 70 this issue of *Printing Equipment Engineer* in report of Pittsburgh ANPA Mechanical Conference).

Photo-Engraving Section

E. O. ASLINGER, Production Manager of the Greensboro (N.C.) *News-Record* presided as topic leader for the Photo-Engraving clinic. In response to a question by Chairman Aslinger, R. J. Walker of the Atlanta (Ga.) *Constitution* stated that because of the difficulty in obtaining equipment and materials, together with the scarcity of manpower, he didn't know that photo-engravers had done very much in the war years to improve the printing quality of their products. All of them, however, have been doing a lot of thinking, so that when equipment, materials and manpower become available, they will be in a good position to improve the appearance of illustrations in newspapers.

C. L. Gronger, Photo-Engraving Supt. of the Louisville (Ky.) *Courier-Journal* and *Times* stated that the proper temperature for cold top developer is around 70 degrees F. Cold top developer is made in his plant, using No. 1 alcohol which is obtained through a permit from the Government. He has a Master developing tank. The plant is air conditioned so that the temperature is alike in summer and winter.

Chairman Aslinger then presented the next question which was "What is the best cure for cloudy enamel prints during hot weather periods where there is an absence of air conditioning?" The stripping at one temperature and developing at another causes trouble. In avoiding scum, the whole problem gets back to the individual who does the manipulating. It was also suggested that a solution of bichromate and water should be used to wash off the plate, which to a certain extent prepares it so as to avoid this trouble.

In the curling of film negatives, someone wanted to know what stripping aids could be used. J. W. Calmback of the Birmingham (Ala.) *News* and *Age-Herald* stated he uses Dixie strip solution, manufactured by Chemco Photoproducts Company. The glass is first sponged over with the solution previous to doing the stripping. C. L. Gronger uses gelatin on the glass. He always does this, irrespective of whether or not the film curls.

As to the cause of curling, Mr. Aslinger stated that film may be left in the hypo too long to cause too much hardening. He recommended cutting down the alum. He also stated that the bath should not be too weak or too strong. The hypo should not be too strong and the solution should not be used for too long a period of time. Proper temperature is an important consideration in the bath.

"Is a three bite halftone more desirable when high speed presses are being operated?" was next presented for discussion. Chairman Aslinger stated that a fairly fine highlight dot should be obtained. If the photo-engraver cannot make a negative for two bites to produce a proper size highlight dot, it is better for him to take three bites in the etching.

R. B. Hackman of the Atlanta (Ga.) *Constitution* stated that one-bite halftones causes the stereotype mat to stick on the plate. Joe Wheeler of the Atlanta (Ga.) *Journal* stated that the second bite is usually undercut on powdered plates and causes improper etching if not carefully watched. Mr. Calmback stated that in his opinion, re-etching of dots is a big help in preventing trouble. He said he "tears off the rough edges of the dot by using a copper wire brush to remove the imperfect edges of the halftone dots".

At the Wednesday morning session, Harold Larsson of Chemco Photoproducts Co. discussed Powers Color Process with Chemco Color Separating and Enlarging Machines. This equipment is designed for quicker color production and furnishes 8 x 10 dry plate separations. After the color separations have been obtained, the final negative may be obtained on any of the equipment. See more fully informative discussion about the Powers Color Process on pages 36 and 37, ANPA Mechanical Conference Report this issue.

Since the time allotted for photo-engraving topics discussion was not sufficient to meet the requirements of the photo-engravers, Chairman Aslinger conducted an extra meeting on Wednesday afternoon, in which a number of photo-engravers got together and discussed their mutual problems.

On Wednesday morning, immediately succeeding Chemco's new equipment discussion by Harold Larsson, E. M. Hill of the E. I. duPont deNemours Company, Wilmington, Del., addressed the audience on "Color Conditioning for Industry". Mr. Hill's address was similar to the one delivered by P. F. Hessler at the ANPA Mechanical Conference in Pittsburgh, see Page 34 this issue of *Printing Equipment Engineer*.

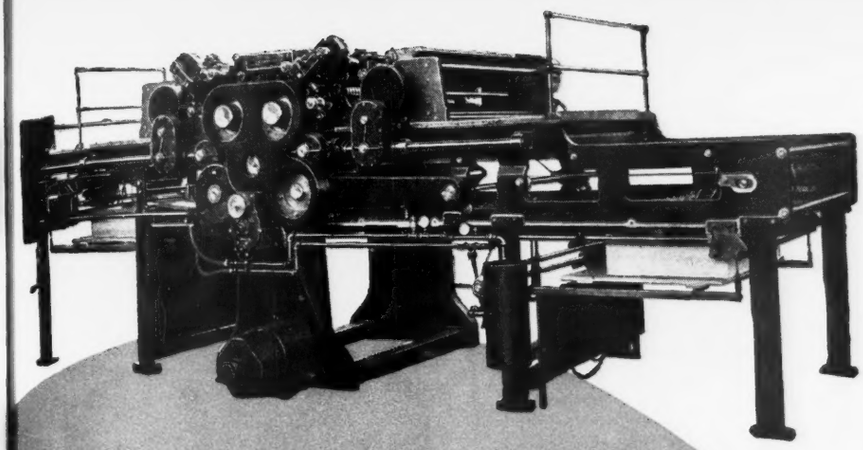
Smaller Newspaper Session

THE smaller newspaper session was presided over by Robert T. Mills, Mechanical Supt. of the Orlando (Fla.) *Sentinel-Star*. The first question to arise was with respect to the size of a small newspaper. It was finally suggested by C. Frank Mann of the Louisville (Ky.) *Courier-Journal* and *Times* that any composing room having ten composing machines or less could be considered in the small newspaper category. A number of executives, however, arose to state that they had from eleven to fifteen machines in their plants and wished to be considered as coming under the meaning of the smaller newspaper title.

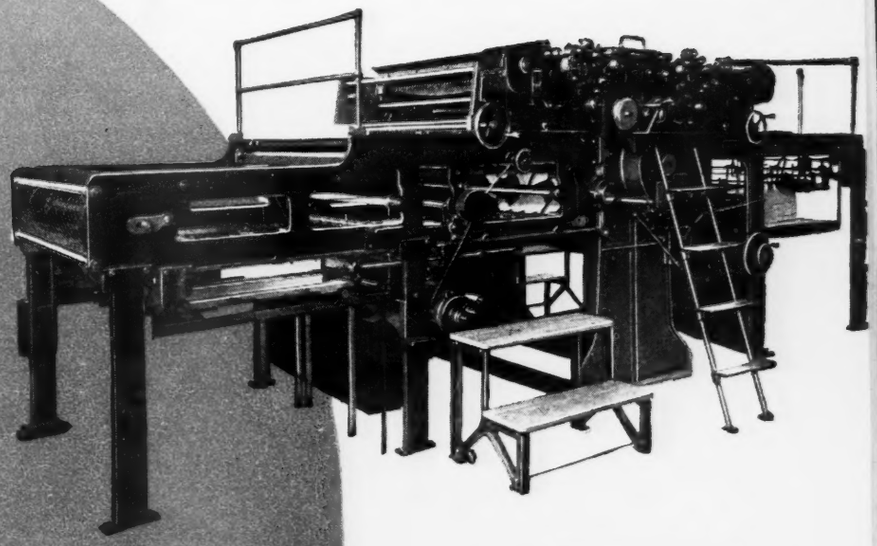
Fred C. Brasier, Composing Room Supt. of the Daytona Beach (Fla.) *News-Journal* discussed the handling of peak loads on Friday in advertising copy. He has seven-machine composing room and publishes morning, evening and Sunday. Advertisements are used in both papers. All advertisements are set in the daytime. His main trouble is with the advertising department which does not observe deadlines. He stated that his peak production period is from 11:00 until 2:30, in which period he needs 16 operators. At other times, two operators would be sufficient to take care of the copy flow. His pages fluctuate from 11 to 16 daily. He stated there are no substitutes available to relieve the situation. Executives in the office cannot understand why several buses are missed occasionally. In particular, it is hard for him to hold two deadlines on grocery advertisements. But the situation has been recently relieved by enforcement of a 36-hour deadline for grocery advertisements.

One executive arose to state that in some cases when grocery advertising copy doesn't come in the plant, he goes to press and leaves the advertisement out of the paper.

The next question to come up was with respect to a machinist in the composing room being expected to repair cameras, typewriters, glasses, pens and pencils, guns and gadgets for employees in the entire plant. It seemed to be the general consensus of opinion that if the machinist had a flair for doing this sort of thing and he kept his equipment excellently, there was no reason why he could not do such work during his spare time. It was agreed, however, that this sort of thing should not interfere with regular maintenance work. H. R. Capps



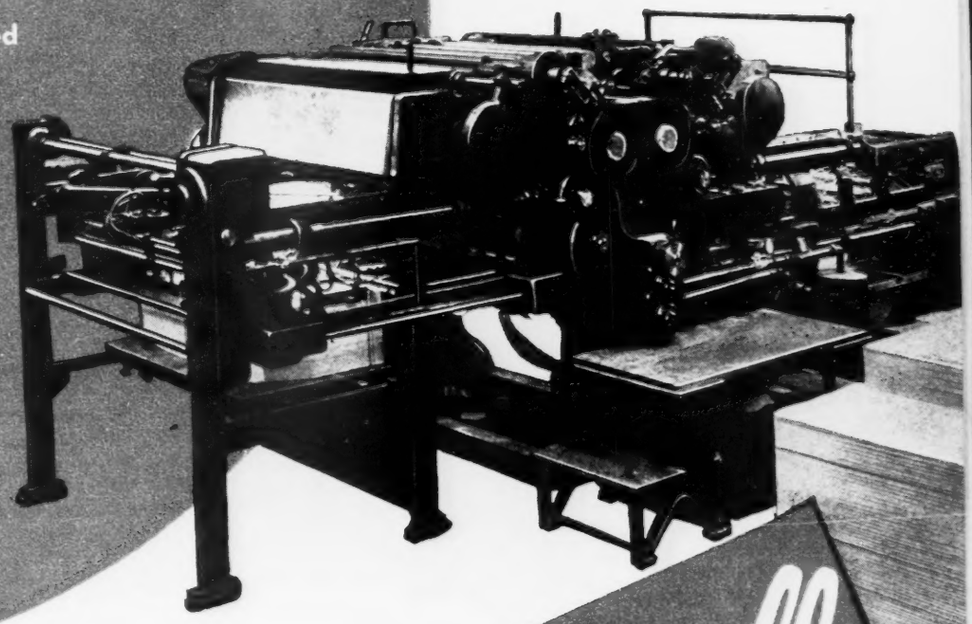
any way you look at it...



Yes, any way you look at this Cottrell-Claybourn 2-color rotary press it means profits whether your shop is large or small.

Its operating speed ranges up to 5500 sheets an hour and combines speed register and superior ink distribution at lower costs.

It is outstanding for the printing of booklets, labels and other color work.



C. B. COTTRELL & SONS CO.
Westerly, Rhode Island
New York: 25 E. 26th St. • Chicago: Daily News Bldg., 400 W. Madison St. • Claybourn Division: 3713 N. Humboldt Ave., Milwaukee, Wis. • Smyth-Horne, Ltd., 13 Bedford Row, London W.C. 1, Eng.

Cottrell

ER 91 YEARS OF GROWING WITH THE PRINTING INDUSTRY

remarked that once upon a time he even made a wooden leg on company time for a printer.

C. C. Renfroe, Composing Room Supt. of the Mackon (Ga.) *Telegraph* discussed the limit for large type which could be set on a machine in a small daily. Mr. Renfroe has an 11-machine plant. He sets up to 34-pt. on line-composing machines and the balance of the display is set on the Ludlow. All of these machines can be turned over to straight matter composition at any time, and six or seven may be utilized for display purposes during the day. He superintends the production of a morning and an evening paper. He employs a full-time machinist, an operator machinist for night operation, and an assistant machinist for the regular days off of the machinist. He employs a negro to wipe up the equipment. An air compressor at 100 lbs. pressure is used throughout the entire mechanical departments to clean equipment.

Building and Planning

MGEORGE MARTIN, Production Manager of the Louisville (Ky.) *Courier Journal* and *Times*, conducted the Building and Planning section of the SNPA Eastern Division Mechanical Conference. He discussed the procedure followed in planning for the new building for his organization. He said the planning was approached through the trial and error method. All department heads were called together and were told to sketch out the flow of work in each individual department. Each department head was advised to disregard other departments entirely. When the separate work flow layouts had been prepared, the department heads were called together and the work flow was changed, if necessary, so that the work would flow smoothly from one department into the next succeeding department. The department head worked with graph paper, which was ruled off in quarter in. spaces per foot. Templates of equipment were cut out to the same scale of ¼ in. spaces per foot. These were laid upon the graph paper. Mr. Martin asserted it is difficult to work with diagrams or pamphlets, of less than ¼ in. scale per foot. In the composing room, it seems that so far, fluorescent lighting has the call, but *Courier Journal* and *Times* executives are not satisfied that this type of lighting will eliminate shadows or glare to the maximum extent.

Mr. Martin stressed the desirability of a clean plant. Glazed tile block for partitions or walls is easily kept clean. He asserted that he had not met anyone yet who was too enthusiastic about acoustical treatment of walls and ceilings. Ink misting in the pressroom presents a problem. The majority opinion in his organization showed a preference for hard maple wood flooring, edge up 2 in. thick bound in blocks with iron and joined by the tongue and groove method. This type of flooring was recommended for the composing room, mail room and the bindery, and acid resistent tile had been selected for the engraving department. In the gallery, a mastic type of floor is preferred because it yields resiliency.

Mr. Martin stated that in the beginning the development of layouts in departments takes a whole lot of time, but in the end will save money for the firm. In the case of each department head, nothing was forced on them. Each layout is his "baby".

With the resumption of the building and planning section on Tuesday morning, Chairman Martin introduced Serge Birn and Earle Runion, who discussed printing plant engineering and equipment layout. (See summaries of these two talks which are similar to the ones delivered by Messrs. Birn and Runion at the Pittsburgh ANPA Mechanical Conference—pages 34 and 35 this issue of *Printing Equipment Engineer*.)

Salvation Army Publishing Activity

Last year almost 17 million copies of "The War Cry", The Salvation Army's weekly paper, brought its message of spiritual and physical rebirth into homes all over the United States.

This is only one of over 130 periodicals and books published in more than 35 different languages by The Salvation Army which has influenced regiments, battalions and divisions of men and women to live better lives through the spiritual and physical help it renders.

An Army of nearly four million represents the number of actual converts during The Salvation Army's sixty-six years in the United States. No one will ever know how many millions more have been influenced to lead better lives because a kindly, helping hand was extended to them.

Today The Salvation Army has embarked upon an even greater program called "Marching Forward to a Better World". This program includes aid to veterans and to our occupational forces; rebuilding of damaged Salvation Army structures in war-torn areas; extension of service into small communities; increased prison and police court work; character-building program for youth; and a broad training program for young officers.

Acquires Adhesive Division

Murray Stempel, Vice President and General Manager, Paisley Products, Inc., Chicago, Ill., announced today that his firm had purchased the Adhesive Div. of Certified Products Co., located at 2624 West Taylor St., Chicago, Ill. The purchase includes all formulas, manufacturing processes, raw materials and finished products.

AS&R Consolidates Lead Products Division

The American Smelting and Refining Co. announced it has consolidated the operations of its Lead Products Div. with those of its Federated Metals Div. Federated has, for a number of years, conducted extensive business in non-ferrous alloys of lead, tin, antimony, copper, zinc, aluminum and magnesium under

E. L. Newhouse, Jr., President of American Smelting and Refining Co.

Alfred P. Knapp, President of Andrews-Knapp Construction Co. and Knapp Mills, Inc.

the direction of E. L. Newhouse, Jr., President.

Alfred P. Knapp, for the last six years general manager of the Lead Products Div. of American Smelting and Refining Co. and president of its subsidiary, The Andrews Lead Construction Corp., will acquire the operations of this subsidiary, together with the manufacturing plant in Long Island City and the homogeneous bonding business of the Lead Products Div.

The operations acquired by Mr. Knapp will be conducted by two newly formed companies of which he is president. These are Andrews-Knapp Construction Co. and Knapp Mills, Inc., with offices at 120 Broadway, New York, N. Y. Arrangements have been completed by Mr. Knapp with Welding Engineers, Inc., of Norristown, Pa., fabricators of steel apparatus and equipment, to provide all the necessary steel fabrication.

A close working arrangement will exist between the Federated Metals Div. of the American Smelting and Refining Co. and Mr. Knapp's new companies.

Forms New Company

Formation of Comac Press, Inc., at 87 Thirty-Fourth St., Brooklyn, N. Y., has been announced by the officers and directors.

Comac Press is laid out, engineered and equipped for the manufacture of full bound books from manuscript to binding. The plant occupies 45,000 sq. ft. on one floor. The officers are: George McKibbin, president; Samuel Schulman, vice president; Samuel Chernoble, treasurer; and Sam Goldman, secretary and general manager.

Power Plants of Production

USERS unanimously agree that all Blue Streak Linotypes are power plants of production. They pronounce them "the best ever," which is high praise.

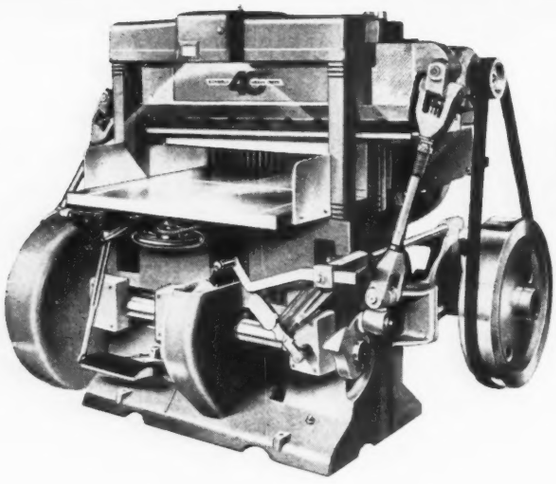
The ease with which text and display sizes are keyboarded reduces hand composition to an absolute minimum.

The instant availability of a large assortment of faces and the simplicity of shifting and changing magazines, plus their great flexibility, make the Blue Streak line truly great producers.

Their popularity among operators is due to the easy operation and the many practical and dependable features with which they have become familiar.

LINOTYPE · 29 RYERSON STREET · BROOKLYN 5, N. Y.

TRADE LINOTYPE MARK



View of Harris-Seybold's Heavy Duty 40 in. Cutter. Mechanical and operating features are described in the accompanying article.

Equipment and Supplies Announcements

Heavy Duty 40 in. Cutter

THE Seybold Heavy Duty 40 in. Cutter is a heavy duty machine in the small size range. It is in production and will reach the market soon, according to H. A. Porter, vice president in charge of sales for Harris-Seybold.

Features of the cutter include: continuous shear with double end pull operation; clamp pressure with all metal friction unit; a new heavy duty multiple disc clutch; scientifically designed shear action; and quick acting knife adjustments.

Manufacturer states the new clamp pressure mechanism makes possible uniformly level clamping, regardless of the position of the stock on the table. The clamp lead has been increased so that the pressure is applied and settled out before the knife enters the pile of paper.

The heavy duty multiple-disc clutch as a light starting action and has been designed to materially lower maintenance costs.

Longer knife life, it is claimed, has been achieved by development of continuous shear with double end pull operation. Greater production is made possible by a 15% faster knife stroke. The knife adjustment, requiring no tools, enables the operator to drop the knife the thickness of one sheet for each position of a knurled collar.

It is also claimed that work area illumination increases operator safety, reduces operator fatigue, and eliminates some of the need for consideration of the natural or artificial lighting facilities in the plant.

Repositioned lubrication points and the installation of a Zerk system are supplied. Fittings have been located in easily accessible points.

Major safety features of the Cutter include a mechanical two-hand starting device, non-repeat mechanism, adequate safety guards, and safety washers.

Panel Type Tachometer

AN electric tachometer for permanent installation is announced by Ideal Industries, Inc. This unit is designed for use where the "pick up unit" or generator must be mounted permanently on a machine, and the meter mounted on a panel far removed from the generator position.

The generator consists of a small, permanent Alnico magnet rotor mounted on precision sealed ball bearings and capable of continuous operation at any speed within the limit of the meter.

The meter or indicating instrument is a rectifier type, including a D'Arsonval

New Ideal Panel Type Tachometer.

movement. It is capable of withstanding a momentary overload up to four times the maximum speed indication without damage.

For installation up to 200 ft. the unit may be connected with two conductor No. 18 insulated wire. For longer distances, it is recommended that the Ideal engineering department be consulted for proper size of conductor.

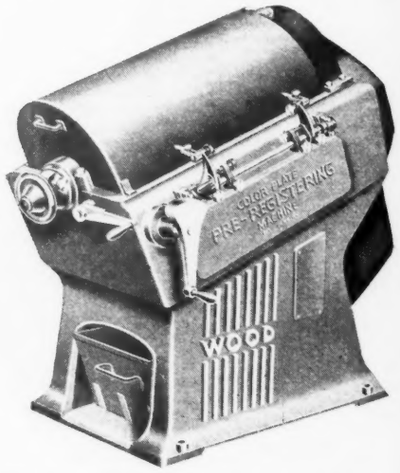
The meters are rectangular in shape and available in two sizes: 3 in., and 7 in. Both are available in three scale sizes. 0-1250 r.p.m.; 0-2500 r.p.m.; and 0-5000 r.p.m.

Stereo Color Pre-Register Machine

A HIGH-SPEED system for accomplishing precise register of 2, 3, and 4 color subjects in daily newspapers, was revealed in the announcement by Wood Newspaper Machinery Corp., of its new color-plate pre-registering machine.

This device registers the plates to hairline accuracy and trims the two curved edges and one straight edge, before they reach the press room. Manufacturer state it provides sets of color stereotypes that are ready to lockup and roll, with no time-consuming adjustments on the press itself. Any inaccurate stereo is spotted in advance, re-cast and re-registered in a matter of minutes.

Use of this machine calls for no changes in the types of stereotype casting equipment and newspaper presses cur-



Wood Color Plate Pre-registering Machine for registering and trimming plates before they reach the pressroom.

rently in use. It is expected to exert an important influence on the trend toward more widespread application of full-color in daily newspapers, both by reducing the preliminary registering time necessary, and by enabling newspaper color techniques to compare favorably with magazine production. An illustrated folder is available on request to: Wood Newspaper Machinery Corp., or through *Printing Equipment Engineer*.

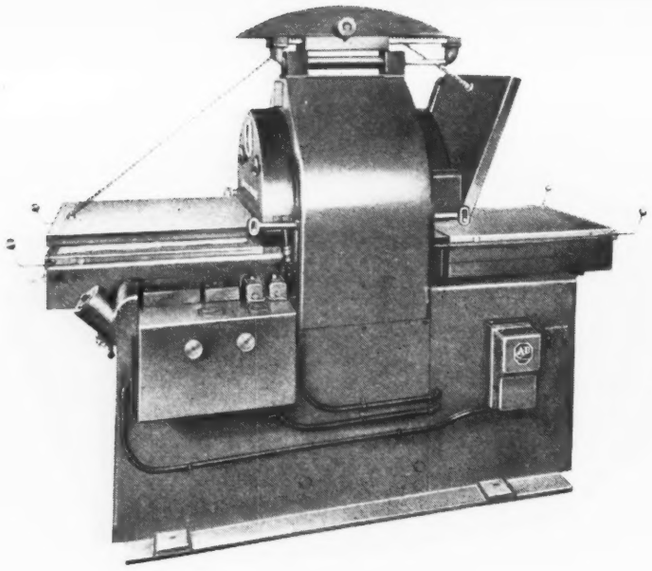
Color Conditioning for Industry

A MULTI-COLOR printed and illustrated booklet has been published by E. I. du Pont de Nemours & Co., Inc., under the title *Du Pont Color Conditioning for Industry*. In it are given the principles for applying suitable colors to walls, ceilings and dados for best working surroundings; also indicated are means for relieving worker eyestrain and color code for indicating danger zones, and to mark certain areas or equipment to indicate hazards and the like. Color conditioning includes both human and safety engineering from the standpoint of both employer and worker.

HAVE YOU CONSIDERED THE ADVANTAGES OF
Rotogravure
FOR PACKAGE PRINTING
Instant drying inks make it possible to print any number of colors, one on top of another, and fabricate or rewind the printed stock without offset, in one continuous operation. A wide variety of stocks, including cellophane and glassine, can be printed successfully in multi-colors. Shown on this page are but a few of the many nationally known products using Champlain Rotogravure Presses to print labels, wraps and cartons. For further information regarding specific applications, write . .
CANADA DRY WATER
Hires
ROOT BEER
Beech-Nut
BEECHIES
GRAPE JAM
Duff's
GINGER BREAD
MIX
Schlitz
JELL-O
IMITATION STRAWBERRY FLAVOR
P AND G
LAUNDRY SOAP
CAMAY

Champlain COMPANY, INC.

88 LLEWELLYN AVENUE, BLOOMFIELD, NEW JERSEY



View of Stereotex Model PMC Universal Hydraulic Molding press for producing plastic electro molds, plastic and rubber plates and stereo mats.

Universal Hydraulic Molding Press

STEREOTEX Machinery Co. has announced the Model PMC Universal Hydraulic Molding Press. This press is designed for the production of plastic electrotype molds, plastic and rubber plates and stereotype mats. Sponsor states press is useful not only for large plate foundries using individual machines for each purpose, but also for smaller shops requiring combination presses.

The PMC press is made in three sizes: 350 T., 900 T. and 1200 T. In the 350 T. press the pressure capacity p.s.i. on the ram is 1450 lbs., size of platen is 25 in. by 29 in., approx. net weight is 11,000 lbs., overall length is 7 ft. 4½ in., overall width is 3 ft. 9 in., and the overall height is 7 ft. 6 in. Max. size of cold-molded stereo mats handled, 200 sq. in.

In the 900 T. press the pressure capacity p.s.i. is 2250 lbs. size of platen is 31½ in. by 26 in., approx. net weight is 16,500 lbs., overall length is 6 ft. 9 in., overall width is 4 ft. 5 in., and overall height is 8 ft. 2 in. Max. size of cold-molded stereo mats handled, 600 sq. in.

In the 1200 T. press the pressure capacity p.s.i. is 3000 lbs., size of platen is 31½ in. by 26 in., approx. net weight is 17,000 lbs., overall length is 6 ft. 9 in., overall width is 4 ft. 5 in. and overall height is 8 ft. 2 in. Max. size of cold-molded stereotype mats handled, 600 sq. in.

The molding press consists of yoked cylinder, frame, ram, moving platen and top platen. The pumping unit, motor, valves and oil tank are in the housing at the front of the press. Push buttons at the front and rear of the press and automatic timers control the press operation which is fully automatic. Oil and air filters are provided to prevent dirt and dust from getting into the hydraulic system. A jacket cooler controls the oil temperature. A drilled steel plate is attached to the top platen for circulating steam for heating, or tap water for cooling, depending upon the type of work to be produced.

Automatic pressure control as announced by Stereotex is as follows: When the press is used for plastic electrotype molds or baked stereo mats, a predetermined initial high pressure and final low pressure is automatically applied for adjustable periods. When press is used for plastic printing plates, Bakelite matrices or rubber plates, an initial "kiss" pressure and a predetermined final high pressure is automatically applied for adjustable periods. At the end of the cycle, the molding press and the platen press automatically open.

When the press is used for plastic printing plates, the upper and lower platens of the molding press are heated and the two platen presses are cooled. The preheating and molding is performed by the molding press and the chilling takes place in either one of the platen presses.

When the press is used for Bakelite matrices or rubber printing plates, the upper and lower platens of the molding press and the two platen presses are heated. Heat processing takes place in two consecutive steps of equal duration; the first in the molding press, and the second in either one of the platen presses.

When the press is used for baked stereo mats, the lower platens of the molding press and platen presses are heated. The molding and drying takes place in two consecutive steps of equal duration, the first in the molding press, and the second in either one of the platen presses. This causes the face of the mat to cling to the pattern during the transfer to the platen press.

Full and complete information about the PMC Stereotex Universal Hydraulic Molding Press may be obtained from the Stereotex Machinery Co. direct, or *Printing Equipment Engineer* will be glad to pass along your request.

Write the editor about the latest mechanical or production improvements in your plant.

Fire Protection Handbook

A 20-PAGE booklet entitled *How to Fight Fires and Protect property* for industrial property owners has been published by Randolph Laboratories, Inc. In the folder are explained and illustrated the techniques in fighting fires with carbon dioxide and other type fire extinguishers, how to recognize fire hazards, and placement of fire extinguishers.

To obtain free copies write for catalog R-5827 "Fire Protection Handbook", Randolph Laboratories, Inc., or *Printing Equipment Engineer* will be glad to forward your request.

Useful Makeready Knife

MARK Specialty Co. announces a new knife which has been designed for several purposes in the printing plant, in the art room and for silk screen work. The new tool is called a Stencil Knife. However, its use is not limited to silk screen preparation. It is suited for use as a press makeready knife, may be used by artists and layout men and by photo-engravers.

The tool consists of four parts—the body, chuck jaws, chuck shell and the blade. The blade may be made to disappear within the housing when the tool is to be carried in the pocket.

NO.24 - TAPER RETRACTABLE BLADE STENCIL KNIFE
HAS ONLY 4 PARTS AS SHOWN.
A HANDY MAKE-READY KNIFE
FOR PRINTERS - LAYOUT MEN
ARTISTS - DRAFTSMEN - OTHERS

The knife has been catalogued under No. 24. Made of steel especially suited to the purpose.

Further information may be obtained from Mark Specialty Co., direct, or through *Printing Equipment Engineer.*

Hess & Barker Literature

THREE pieces of equipment literature are available to readers of *Priming Equipment Engineer* from Hess & Barker. The first of these is an illustrated 8 page booklet which is descriptive of the Hess & Barker four-color rotary printing press which, manufacturer states provides lighter fatigue load which in turn permits use of stereotype plates for printing paper bags, wrappers, labels and for other purposes at web speeds in excess of 1000 f.p.m.

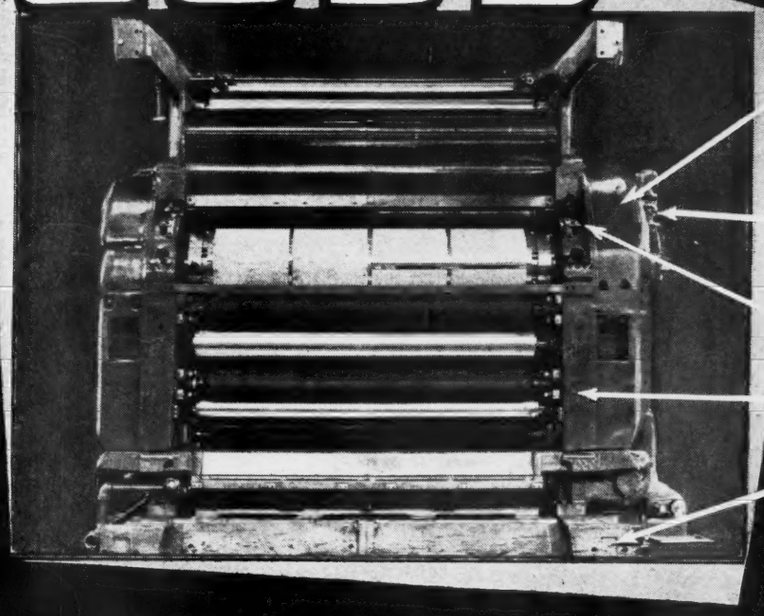
The second piece is a folder in which is described the Hess & Barker Curved Plate Registering Machine. Can also be used as a plate-matching unit for double trucks cast in the same box as used for the regular single page.

The third printed piece is a six page illustrated folder in which is described the Hess & Barker Rotary Shaver. Shaves plates from 2 in. by 2 in. up to 18 in. by 24 in. within 0.001 in. accuracy.

GOSS

MECHANICAL SUPERIORITY

BASED ON 61 YEARS OF PRESS BUILDING



- Streamlined Housings allow Automatic pressure lubrication of all Gears, drives, and bearing
- Preloaded Bearings
- Balanced Power Take Off
- Static and Dynamic Balance of all Rotating Parts
- Goss Impression Adjustment
- Extra heavy press unit frames
- Heavy Wall Brackets with stiff cross frames to prevent vibration

In addition to the mechanical features mentioned above. The GOSS HEADLINER possesses such well-known exclusive features as the GOSS TENSION PLATE LOCKUP, CONTINUOUS FEED INK SYSTEM, COLOR FLEXIBILITY, COLOR BY PORTABILITY, GOSS COLORTROL, and the GOSS UNI-FLOW FOLDER.

The Headliner Press is the result of continuing engineering study and research followed by grueling tests of new features to positively prove their value in obtaining higher quality printing. As a result, not only are greater flexibility for color and better printing quality possible with the Headliner — but greater safety and more efficient operation at higher speeds are also obtained.

Check the mechanical features of every part of the Headliner and you will give them top rating. It is engineered for maximum efficiency and economy of operation.

The Future of Color Printing in Newspapers is *SAFE* for those who buy a GOSS HEADLINER.

GOSS NEW YORK SAN FRANCISCO LONDON, ENG.
PRINTING PRESS COMPANY
1535 South Paulina St. • Chicago 8, Illinois

Parchment Master Reproduction Process

A "parchment master reproduction" process, developed by the Army Service Forces for duplicating forms, drawings, and typewritten or longhand data, is described in a manual now on sale by the Office of Technical Services, Department of Commerce. The new process offers considerable savings in time, money, personnel, and space.

The manual was published by ASF in January, 1946.

In this process, an inexpensive, 60-pound, long-grain parchment paper, similar to paper for wrapping butter, is used to prepare masters for offset reproduction. The masters may be made from photographic plates, from other masters, or by direct image from a typewriter, pencil, or ink.

Only ordinary offset duplicating equipment is required in the process. Copies are reproduced as in other offset work, except that reproducible ink is always used for reproducing additional masters, while duplicating ink is used for running other copies.

Among the advantages claimed for the parchment masters are the following: The quality of the copies reproduced is dependent solely on the quality of the image on the master; handwriting and typewriting are readily reproduced; smudges, grease spots, and fingerprints will not reproduce if the masters are used within six hours after being soiled; corrections may be made with a soft rubber pencil eraser; the cost is low; and 2500 consistently clear copies may be reproduced in one run.

Full descriptions of the process and its advantages, together with illustrative photographs, are contained in the manual. ASF contemplates issuing a more complete manual on the new process in a few months. This manual also will be available from OTS.

The manual may be ordered from OTS as Report PB-19195 (photostat, $2; microfilm, 50 cents; 28 pages). Orders for the report should be addressed to the Office of Technical Services, Department of Commerce, Washington 25, D. C., and should be accompanied by check or money order, payable to the Treasurer of the United States.

Cold Run Resin Glue

A COLD-RUN, fast-setting resin wood glue, called Wood-Lok, has been developed for joint assembly operations by National Adhesives. Wood-Lok resin glue can be handled and machined after 20 to 30 min. clamping time. Exhaustive tests and two years' use and study in a wide variety of wood-working applications in the field, states manufacturer, show it produces a strong, resilient bond unaffected by humidity changes.

The following properties are claimed: It is cold-run; its bonding quality is never weakened by constant heating. It is a liquid, ready for use. It does not harden in the pot. Its characteristics never change during shipment, application or use. Its storage and working life is months. It has no odor. It eliminates "chilled" joints. It never embrittles nor forms a rock-hard abrasive film.

Wood-Lok glue colors range from pure white, which is claimed to dry colorless and leaves no glue line, to darker shades for special uses.

Improved Screen

FINE detail in reproductions of photographs and drawings has been achieved by the Germans with a screen printing process which uses a newly developed photosensitive polyvinyl acetate lacquer, according to a 17-page report now on sale by the Office of Technical Services, Department of Commerce.

The process is described by Francis L. Richardson, U. S. Army Quartermaster Corps consultant, who states that screens produced by this process are highly durable and resistant to chemical action. The method was developed at the Hoechst plant of I. G. Farbenindustrie.

A freshly mixed solution of saponified polyvinyl acetate and ammonium bichromate is painted over a bronze or silk gauze screen. A positive print of the design is placed over this photosensitive surface, which is then exposed to direct light for several minutes. The light causes the bichromate to oxidize the exposed plastic coating into an insoluble film.

The screen is rinsed in cold water in a darkened room, and then washed in hot water to remove the unexposed portion of the lacquer. Before printing, the lacquer is further hardened by dipping the screen into a formaldehyde solution.

The unique feature of this process is the toughness of the photosensitive lacquer. The finished screen requires no hand-applied reinforcement coat of lacquer, which would cut down on the fineness of detail and accuracy of reproduction.

A similar German process, developed by Klimsch and Co., Frankfurt/Main, is described in the same report by Dr. M. L. Crossley, also consultant with the U.S. Army Quartermaster Corps. In this method, a copper cloth, similar to that used to filter gasoline, is coated with a solution of polyvinylchloride and ammonium bichromate. Exposure and washing processes are the same as for the I. G. Farben method. The lacquer does not require any further hardening before printing.

In this method, designs may also be drawn directly on the screen. Screens prepared in this manner were said to be used for printing on both textiles and paper.

Printing processes for both methods are similar to those used in regular screen printing.

Orders for the report (PB-23638; photostat, $2; microfilm, 50 cents), should be addressed to the Office of Technical Services, Department of Commerce, Washington 25, D. C., and should be accompanied by check or money order, payable to the Treasurer of the United States.

Metal Melting Bulletin

NEW descriptive literature on gas-fired immersion melting equipment (including five specifications tables and discussion of the theory and technical characteristics of the process) has just been issued by The C. M. Kemp Mfg. Co. and is available to anyone. The bulletin (NO. IE-10) is printed in two colors, contains 19 photographs and diagrams, gives dimensions, consumption, plate melting rates, capacities, and shipping buyer's check list for use in selecting equipment, and an analysis of current melting methods and relative performances. Stereotype, electrotype, remelt, and job installations are covered. Data on fuel costs, temperature and dross control, upkeep and working conditions are given. Bulletin will be sent upon request to the C. M. Kemp Mfg. Co., or *Printing Equipment Engineer* will forward your request for you.

Fluorescent Fixture Catalog

ELEVEN standardized commercial fluorescent fixtures, suitable for lighting offices, stores, schools, institutions, drafting rooms and laboratories, are described in a new "wrap-around" catalog packet just issued by Sylvania Electric Products Inc.

Specifications and installation data are given on the 11 basic Sylvania Electric models which can be installed in single or continuous rows through any one of four standard mounting arrangements. The easy maintenance features of not having to remove nuts or screws to relamp the fixtures and the simplicity with which the hinged louvers and glass diffusing panels can be swung open and lifted clear for cleaning are also explained in this material.

General Electric Bulletin

A FOUR-PAGE illustrated bulletin published by General Electric Co. is entitled *Everything Electric for the Printing Industry*. In it are discussed G.E. family of press drives, a.c. press control, accessories such as web-breakers, press cylinder brakes, electric stereotype melting and photoelectric color-register control.

Bijur Window Units

BIJUR Lubricating Corp. has published an illustrated four page bulletin No. 4B, in which are described Bijur flush-mounted window units for application to equipment where visibility of oil or liquid level, flow or drip, and for the observation of the position or movement of parts, such as gear mesh, timing marks, and the like is desirable. The unit is made of chrome-plated steel, one piece with unbreakable plastic window. For a copy of the bulletin 4B address Bijur Lubricating Corp. direct or *Printing Equipment Engineer* will gladly pass along your request.

"We like Certifieds They have BALANCE"

—explains the stereotype foreman to his conference chums. They give us working qualities without sacrifice of fine impression . . . easy to mold, quick in the scorcher, a good first cast made at low metal temperature . . . then the satisfaction of picking up a paper you can take pride in.

You may like some mats for one thing and some for another — but its balance of qualities that give satisfaction day after day and year after year.

CERTIFIED DRY MAT CORPORATION
9 Rockefeller Plaza, Dept. M, New York 20, N.Y.

For dependable stereotyping rely on Certified Dry Mats.

Certified DRY MATS

EXECUTIVE ¶s

Charles H. Stout, vice president and sales manager of Matrix Contrast Corp., recently announced the establishment of four sales and service districts in the United States. The districts are Eastern, Middle Western, Southern and Pacific. Gerald, W. Hunter has been appointed Eastern manager; Willis C. Hunter, Middle Western manager, and Jack Faris, Pacific Coast Manager. The company's sales and service activities in the Southern district will continue under the supervision of the New York office for the present. Gerald W. Hunter has been a sales representative in the Eastern district, in addition to his duties as manager of all service work. Arthur D. McClary has been named to assist Mr. Hunter in the supervision of service work. McClary has been the head of a road service crew in the Pittsburgh-Cleveland vicinity for several years. Both will make their headquarters at the company's main office in the Empire State Bldg., New York 1, N. Y. Willis C. Hunter, who has taken over the Middle Western district, has been with the company nearly twenty years as the head of a road service crew, working mostly in the Baltimore-Philadelphia area. He will make his headquarters at the Chicago branch, 326 West Madison St., Chicago 6, Ill. The appointment of Jack Faris as Pacific Coast representative was announced earlier this year following his release from active duty in the Navy.

Gerald W. Hunter, Eastern district sales and service manager for Matrix Contrast.

Willis C. Hunter, Middle Western district sales and service manager for Black & White.

Arthur D. McClary, assistant to the Eastern district sales and service manager.

Logan G. Thomson, president of The Champion Paper and Fibre Co., died August 9, while on vacation in LaJolla, Calif. He had left Hamilton, O., in good health in June, and only a short time ago contracted his fatal illness. Thomson was born in Cincinnati, in 1884, the son of Peter G. Thomson, the founder of Champion. He entered the business 41 years ago, starting as a laborer in the mill. From these various mill jobs he acquired a thorough knowledge of the papermaking industry. He also developed a sympathetic interest in the well-being of his fellow employees. This period of company service was interspersed with attendance at Williams College, and army service as a Captain in World War I. Thomson held successively the positions of manager of Champion's New York sales office, assistant production manager, became a director in 1916, secretary-treasurer 1920, and first vice president in 1931. In 1935 he became president of the company and served in this capacity until his death.

Logan G. Thomson, president of Champion Paper & Fibre Co., died in California.

Clyde E. Kellogg, president of Stanford Paper Co., of Washington, D. C., announced the appointment of James L. Austraw as manager of the Paper Specialties Div. Walter W. Heeley former head of the department will continue with the company, and will work closely with Austraw. After more than five years in the Army, Austraw recently was separated as a Colonel. He holds a B.S. degree from Carnegie Tech, and prior to his Army service spent six years in selling and sales supervision.

Retirement of James A. Coleman as secretary and treasurer of American Type Founders, Inc., Elizabeth, N. J., after 40 years with the firm, has been announced. He will continue as a director of ATF Inc., which was recently formed as the parent company of the various manufacturing and sales organizations in the ATF group. Mr. Coleman joined ATF as its cashier, and became secretary and treasurer in 1933. He was first elected to the board of directors in 1928. During the four decades, Mr. Coleman was closely associated with William M. Kelly, inventor of the Kelly printing press, and the late Henry Lewis Bullen, the widely-known authority on Graphic Arts history and founder of the American Type Founders Typographic Museum and Library, now in the Columbia University Library, New York, N. Y.

James A. Coleman, secretary-treasurer of ATF retires.

John H. Dalzell has been named vice president in charge of sales promotion and expansion activities, by Alex. G. Highton, Inc., typographers and graphic arts counsellors, of Newark, N. J. He has been a member of the Publications Div. of Worthington Pump and Machinery Corp. and was formerly assistant sales promotion manager of the Manufactured Products Div. of The Borden Co.

American Type Founders Sales Corp., Elizabeth, N. J., has announced the appointment of Walter R. Raasch as the manager of its Milwaukee office, 737 Van Buren North. Mr. Raasch has been associated with ATF nine years, and was formerly in its Cincinnati office. He succeeds Charles R. Becker, who has resigned to go with another firm.

Walter R. Raasch appointed manager of ATF's Milwaukee office.

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EK-5—5 column x 18" with 400 lb. melting pot.
EK-6—6 column x 24" with 400 lb. melting pot.
EK-8-P—8 column—with 800 lb. melting pot.
EK-8—8 column—without melting pot.

Prompt delivery on 5 and 6 col.

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Leading Stereotypers Choose
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STEREOTYPERS who have the "Know-How" use Eastern Tru-Mold Cork Molding Blankets because of their superior "come-back" qualities. These same properties make for sharp, clean impressions even after severe usage. They have greater flexibility that keeps edge cracking to a minimum. Made with just the right amount of Bakelite to insure perfect density. Only Tru-Molds have these properties.

Tru-Molds can be had in either "Medium," "Medium-Hard" or "Hard" density in standard sizes and 21 x 25 x 3/16".

LEADING stereotypers use "Flecto" Gummed Backing Felt to secure maximum "stay-back" resulting in clean-cut plates. "Flecto" sticks flat to the mat regardless of heat used in scorching. It is free from cracking, slipping or crystallizing. Order it in sheets or strips. Either way it cuts or tears easily, cleanly and without ragged edges. Accurately gauged, uniform throughout, soft, pliable; will not peel or separate in layers; conforms to and shrinks with the mat.

Place your order today in either sheets or strips for the following sizes.

GAUGES AND SIZES

Gauges .021, .025, .030 (Green) sheeted 18" x 24".
Gauge .035 (Red) sheeted 18" x 24".
Gauges .040, .045 (Green) sheeted 18" x 22".
Gauges .050, .060 (Gray) sheeted 18" x 20".
Cut into strips 9" or 18" long and 1/8" to 1" wide at no extra charge.

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DEEPMOLD CREEPER

The most advanced development in molding creepers—the Deepmold Creeper—molds exceptionally deep bolsters, gives sharp halftone reproductions, will not cut or spread column rules.

EASTERN NEWSPAPER SUPPLY

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Thomas J. Reese, jr. has been appointed Buffalo branch manager for International Printing Ink Div. of Interchemical Corp. He takes over the administrative functions of the branch from his father, Thomas J. Reese, who will continue in an advisory capacity. Mr. Reese, sr. has been with the company

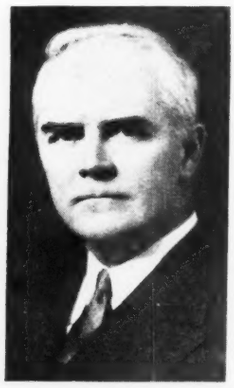
Thomas Reese, sr., former manager of IPI's Buffalo branch.

Thomas J. Reese, jr. becomes branch manager of IPI's Buffalo office.

since 1908. He became manager, secretary and treasurer of the Ault & Wiborg Buffalo Co. in 1919. After the merger of Ault & Wiborg into IPI he became president of the new organization. In 1931 he was elected president of the International Printing Ink Corp. of Canada and since 1933 has been manager of the Buffalo branch of IPI. Thomas J. Reese, jr. has been with IPI since 1935. After a training period in the New York branch and Brooklyn factory and the Laboratory of IPI he was sent to Buffalo in sales work. He enlisted in the Army late in 1940 and saw action with the 42nd (Rainbow) Infantry Div. in France and Germany.

Dean M. Lyle Spencer of the School of Journalism at Syracuse announced that Laurance B. Siegfried, head of department of printing and professor of graphic arts, Carnegie Institute of Technology, will return to Syracuse University in September as chairman of the department of graphic arts. Siegfried was Syracuse University Printer and associate professor of journalism from 1940 to 1945. In that time he also was chairman of the department of graphic arts in the School of Journalism, chairman of editorial board and general editor of Syracuse University Press, and managing director of Orange Publishing Co. Siegfried made his second appearance as judge of the Ayer National Newspaper Typography Exhibition this year. In 1946 he was named an honorary vice president of the American Institute of Graphic Arts and in 1943 he was awarded the Harry J. Friedman Memorial Medal for distinguished service in the cause of graphic arts education.

At a board of directors' meeting Reuben B. Robertson was elected president of The Champion Paper and Fibre Co., to succeed the late Logan G. Thomson. Reuben B. Robertson, jr. becomes executive vice president. Dwight J. Thomson was elected a director and vice



Champion Paper and Fiber Co. elected Rueben Robertson, president.

president. Mr. Robertson, sr. has been associated with the Champion organization since 1907, at which time he was assigned to supervise the construction of the company's new southern pulp mill at Canton, N. C. After serving as general manager and vice president, Robertson became president of The Champion Paper and Fibre Co. when reorganization consolidated operations of the Hamilton and Canton mills. He is president of the American Paper and Pulp Association.

John W. Rockefeller, Jr. & Associates, Consulting Engineers, New York, N. Y., announce that William S. Wright re-

William S. Wright, Consulting Engineer with John W. Rockefeller, Jr. & Associates.

cently joined that organization. Mr. Wright was a member of the Planning Division of the Government Printing Office in Washington, D. C., during the war, and more recently was production manager for Geffen, Dunn & Co., New York, N. Y. As an engineering graduate of Carnegie Institute of Technology, Wright has been specializing in the field of production and plant management, job planning, production and material control systems, and plant layout. He is a member of the American Institute of Graphic Arts and various trade associations.

V. V. Sherrod has been appointed Linotype production engineer in west Texas and New Mexico, having succeeded L. F Bookman, who has retired.

Sherrod is a native of Oklahoma and and attended Oklahoma University. After his campus days he served as printer, operator or machinist with newspapers in Oklahoma and New Mexico. Then he joined the advertising staff of the Perry (Okla.) *Journal*, and was made business manager of that paper. Later he became manager of the Houma (La.) *Courier*, and from that position joined the Linotype organization.

After 28 years employment by IPI, Harry B. Taylor has retired from the selling force but will continue to be on

Harry B. Taylor retires from IPI selling force.

call for IPI as a consultant and technical adviser on printing. He has had a long period of service in the printing and ink making fields. After serving his apprenticeship as a pressman at the Butterick Publishing Co. he added to his pressroom experience by working in such plants as McCall's, Charles Francis Press, Scribner, and Art Color Co. In 1918 he left the Giles Printing Co. His experience as a rotary pressman induced him to focus his attention on the bread wrapper and wax paper industry, which became one of his specialties, and many of his suggestions for improving the methods of printing in this field were adopted. Taylor will spend winters at his home in Miami, Fla.

Harry Siegel, who joined the Ever Ready Label Corp. of New York, N. Y., recently as assistant advertising manager, has been appointed sales promotion manager it was announced by Herbert Kaufman, director of sales and advertising. Ella C. Mylius joined the staff of the company in an administrative capacity. Miss Mylius was formerly director of the Printing Consulting Service of the New York Employment Printers Association, and executive secretary of the Associated Printing Salesmen, it was announced recently by Sidney Hollander, president of the corporation.

Patents

For The Graphic Arts Field

Covering patents issued July 16, July 23, July 30, August 6.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25¢ for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating

During the four weeks covered by this report, no patents have been issued for this heading.

Composing Room Equipment

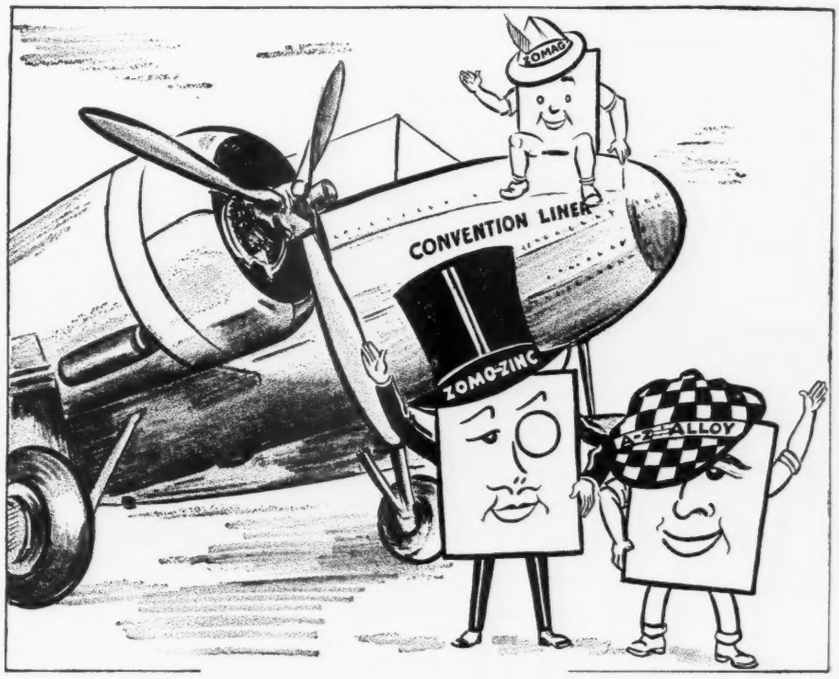
2,404,364. METAL RECLAIMING APPARATUS, which may be either a small portable unit or large permanent equipment, for use by newspaper and printing plants. Alloys, such as tin, type metal, etc., may be recovered from the "dross" or "scuff" skimmed from the surface of molten plating baths or melting pots. The portable apparatus is especially suitable for newspaper plants located in small towns where it is now necessary to ship type metal long distances for reclamation. The apparatus casing has a heating cavity in which a cradle rotates. The receptacle, in which molten metal to be separated is placed, has an upwardly and outwardly inclined side wall, is closed to the atmosphere and is removably fitted in the cradle. An agitator rotates freely within the receptacle, the speed of the agitator being controllable with relation to rotation of the receptacle and the molten metal. Invented by Thomas B. Cooper, Philadelphia, Pa., and William H. Schulz, Weehawken, N. J. Assigned to Cooper Development Co., New York, N. Y. Application July 24, 1942. 6 claims.

Feeding, Folding and Delivery

2,404,756. APPARATUS FOR CORRECTING DIFFERENCES IN REGISTER, for use in the feeding table of a printing machine. Differences in register are avoided which may result from the alteration of the paper by moisture or temperature as is known to occur in multi-color printing processes. In combination with the feeding table several bars of sheet metal are arranged in the conveying direction. In parallelly spaced positions two rams for each bar are located below the feeding table and hinged to the bar, each of the rams having a recess. Shiftable means extend into the recesses for moving the rams and adjusting the bars vertically. The apparatus does not interfere with existing arrangements, and the adjustment of the bars can take place during service. Invented by Georg Spiess, Leipzig W. 31, Germany. Vested in the Alien Property Custodian. Application January 8, 1942. In Germany February 5, 1941. 2 claims.

Miscellaneous

2,405,249. METHOD OF APPLYING COATING FILMS involving the elimination of solvents from such films by exposing them to the effect of an alternating electrostatic field. The method may be applied to printing whereby printed impressions on sheets are dried faster by the application of the high electrostatic field. Two polar resins having dielectric constants greater than three are incoporated into the coating compositions. An electrostatic field is established by connecting a pair of spaced electrodes to a source of single frequency alternating current. One of the resins has its maximum dielectric loss at the selected frequency when the coating composition has a low viscosity and contains the major portion of the solvent. The other resin has its maximum dielectric loss at the selected frequency when the coating composition has high viscosity approaching dryness. The amount of the two resins is proportioned to maintaining a continuous heating effect during subsequent vaporization of the solvent. The composition is then deposited on a support-



WE'LL SEE YOU IN PHILADELPHIA

YES SIR, they'll all be there to greet you at the American Photo-engravers' Annual Convention. Be sure to stop over at their booth.

You'll especially want to get the latest news about young Zomag (Dowmetal). You may be surprised to learn how he has come along. His lightness, stamina, and quick-etching are causing a lot of interesting comment.

There are also some mighty important points which Zomo Electric Zinc and A-Z Alloy want to make. So make it a date October 14-15-16 — in Philadelphia.

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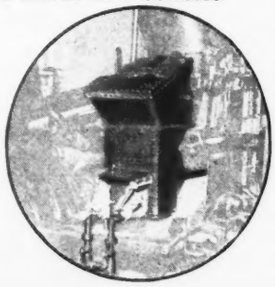
A GOOD LASTING IMPRESSION
With MONOMELTED Type

FOR AN ATTRACTIVE, clean-cut newspaper that will make a *lasting* impression, start with crisp, solid Monomelted slugs. Equipped with MONOMELT your present line-casting machine will produce the kind of slugs needed for printing a sharp, readable page. By supplying balanced, *automatically-fed* type metal at a consistently correct temperature, Monomelt assures finer type and increased machine output.



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THE MONOMELT COMPANY, INC.
1611 POLK STREET NORTHEAST MINNEAPOLIS 13, MINNESOTA

ing surface and vaporized by subjection to an electrostatic field. Invented by Mitchell Wilson, New York, N. Y. Assigned to Fred H. Levey Co., Inc, New York, N. Y. Application November 13, 1943. 6 claims.

Plate Making

2,405,291. PRINTING SCREEN assigned to International Business Machines. This gravure printing screen is transparent and of such configuration that the use of multiple screens is obviated in that the cellular arrangement of the screen is such that it is said to preserve the detail of any design. Screen is made up of a film having an openwork pattern consisting of opaque lines forming hexagons extending in rows and columns. Each hexagon has a pair of opaque, curved lines extending between different apexes to divide hexagon into three parts. The curved lines extend in different directions in adjacent hexagons. All of the lines terminate short of intersection with other lines. Invented by Lawrence C. Corbett, Binghampton, N. Y. Assigned to International Business Machine Corp., New York, N. Y. Application November 10, 1944. 3 claims.

2,405,513. PHOTOGRAVURE PRINTING PLATE comprising a water-resistant paper base, a relatively heavy photosensitive casein coating on the base, and a thin layer of photosensitive polyvinyl alcohol on the casein coating. When selected areas of the polyvinyl alcohol layer are exposed, such areas become grease-receptive and water insoluble, while the unexposed areas remain water-soluble. The thickness and character of the casein coating is such that unexposed areas are capable of swelling to a level above the grease-receptive areas when the plate is treated with water. Printing plates made by the process have been used on fast presses and have produced as many as 75,000 satisfactory impressions. Invented by William G. Mullen, Winchester, Mass. Assigned to Lithomat Corporation, Boston, Mass. Original application June 22, 1942. Divided and this application December 16, 1944. 1 claim.

2,405,532. LIGHT-SENSITIVE PHOTOGRAPHIC COATING COMPOSITION. It consists of a water miscible organic salt having dissolved therein a water-insoluble resinous polyvinyl acetate free from hydroxyl groups and having water absorption of at least 10%, a light sensitive diazonium salt, a diazo stabilizer taken from the group consisting of water-soluble nitrites, alkyl nitrites and hydrocarbon phosphates, a diazo coupling component, and not more than 10% of water. Pigments may be incorporated. Such coating compositions are generally useful for copying letters, designs, plans, etc., as in the manufacture of templates, and the composition is more especially for coating on metals, boards, etc., to be exposed through a master drawing and developed. Invented by Virgil B. Sease and David W. Woodward, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application August 9, 1944. 4 claims.

Printing Inks and Related Chemicals

2,404,680. MOISTURE-SETTING PRINTING INK which has sufficient moisture tolerance to be stable on the press under high press-room humidity conditions, without requiring the addition of a stabilizer. Nevertheless, it is said to dry quickly when applied in a thin film either under natural drying conditions or upon application of moisture by moist air or steam, and can be stored indefinitely and retain its original printing body without coagulation. It is fat- or grease-proof and therefore can be used on food wrappers, and its vehicle is said to be a good dispersing agent for all pigments without requiring modification for that purpose. The ink comprises water insoluble coloring matter dispersed in a varnish consisting of a solution of about 25% to 50% by weight of shellac in polypropylene glycol of the class which is substantially liquid at normal temperature. Invented by Carl W. Aneshansel, Cincinnati, Ohio. Assigned to Sterling Drug Co., Inc., New York, N. Y. Application March 26, 1945. 7 claims.

2,404,740. TREATMENT OF ORGANIC SOLUTIONS OF FORMALDEHYDE-UREA REACTION PRODUCTS. This is a method of increasing the viscosity of a butyl alcohol solution of a formaldehyde-urea reaction product without decreasing its compatibility yith hydrocarbons. The ratio of formaldehyde-urea reaction product to butyl alcohol is maintained high enough, in an alcoholic solution, so

Composing Room Trouble Insurance

BOOTH ZINK CUT CEMENT gives low cost insurance against time consuming cut mounting troubles. Use it to fasten any kind of cut, electro, stereo or plastic to wood or metal base. It does its job well. Get a supply now and keep it always on hand.

PRICES: 75c per tube, $6.00 per dozen tubes, $5.00 per dozen in gross lots.

Booth's Black Rubber Rolls

For maximum resiliency and greatest cam tread friction use BOOTH BLACK RUBBER ROLLERS on your line-casting machines. They maintain an even diameter throughout their length when installed correctly on your keyboard roll shafts.

PRICES: $1.45 per pair, $7.75 per dozen.

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The postman's pouch was HEAVY

Today, as every day, the postman came in loaded down with metal samples from Imperial users. These samples, numbered in the thousands, are given free analysis each year at Imperial's Type Metal laboratories. When a sample arrives at the Imperial laboratory, a series of tests are begun. One test is run for impurities—one for composition of the sample—then, a special test for structure and texture of the metal. All results are recorded in duplicate. One copy goes to the user, the other is placed in the Plus Plan files under the user's name.

These accurate tests, plus years of experience and constant study of past metal histories, are the basis for a Plus Metal that replaces the elements necessary to keep working supplies in top shape at all times.

Check your metal cost. Adopt the Plus Plan now!

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Serving the Graphic Arts Industry Only

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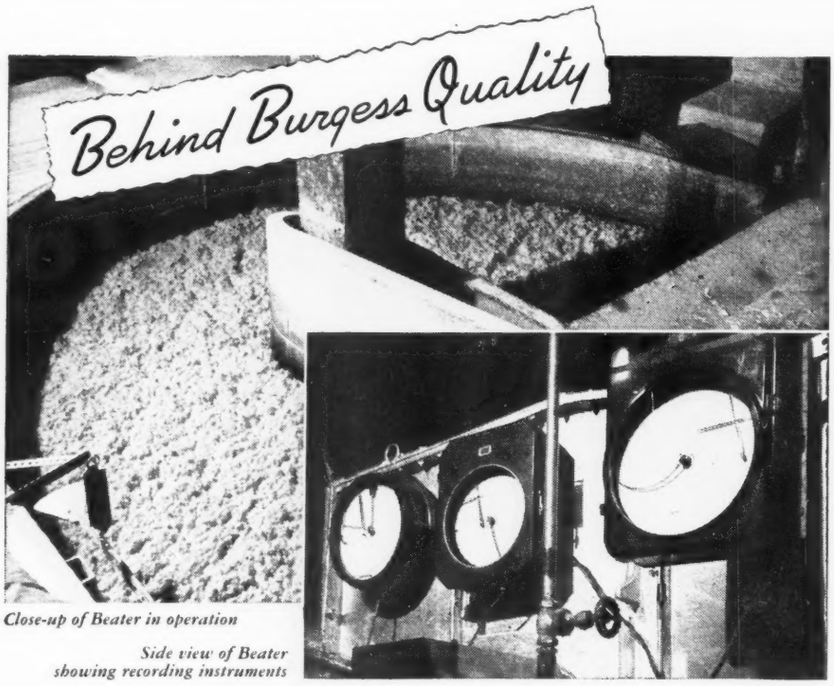
that the solution contains not less than .3 part of nitrogen derived from urea for every two parts of the reaction product and butyl alcohol. The ratio is maintained while the solution is in an acid, anhydrous condition, until an increase in viscosity takes place. A high viscosity, as an example of numerous applications of the invention, is useful to hold a pigment in suspension, and to prevent "flooding" of pigment. Invented by John A. Murray and George H. Metzger, Toledo, Ohio. Assigned, by mesne assignments, to Libbey-Owens-Ford Glass Company, a corporation of Ohio. Application September 28, 1940. 3 claims.

2,404,769. PUTTY COMPOSITIONS SUITABLE FOR PLANOGRAPHIC PRINTING ON CELLULOSIC MATERIALS, such as moist titanium dioxide pigmented viscose rayon, leathers, etc. A carbohydrate gum is the essential bodying ingredient and an amide of an acid in the group consisting of carbonic, thiocarbonic and cyanuric acids is included. All ionizable hydrogen atoms of the acid are amidified and the amide has at least one free reactive hydrogen atom and is present in the form of a reaction product with the carbohydrate gum. The putty is hard at room temperature, and has good plasticity through 37 to 113 degrees F. It keeps well when exposed to ordinary moisture conditions. The putty contains from 45% to 65% carbohydrate gum and from 6% to 25% amide. Invented by Chester A. Amick, Bound Brook, N. J. Assigned to American Cyanamid Co., Bound Brook, N. J. Application December 23, 1944. 20 claims.



Close-up of Beater in operation

Side view of Beater showing recording instruments

PRECISION PREPARATION OF RAW MATERIALS

The first step in the lengthy process of manufacturing Burgess Chrome Mats is the preparation of the raw materials. The pulp — and most of the other ingredients — must be refined in machines called "beaters."

On the face of it, this seems simple. But the treatment which transforms the raw materials into the proper form must proceed in the right sequence, under accurate timing. To make sure that this is being done, samples are tested at certain intervals in the production laboratory — one of a number of laboratories which control the entire manufacturing process of Burgess Chrome Mats. And for further checking purposes the beaters are equipped with automatic controls and devices which record on charts the progress of each batch. These charts become a permanent reference history.

A Laboratory Product BURGESS Chrome MATS

Thus does laboratory-controlled treatment of the raw materials lay a solid foundation for the uniformly high quality of Burgess Chrome Mats.

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats

FREEPORT, ILLINOIS

Pacific Coast Representative RALPH LEBER CO., 426 Polson Bldg., SEATTLE, WASH.

2,404,787. HARD, GLOSSY PLASTIC-LIKE COATINGS and plastics are obtainable by the process of this invention. One example is a hydroxy-di-(dihydronordicyclopentadiene), a secondary alcohol, having the formula $C_{20}H_{25}OH$, and possessing two double bonds in the molecule. The alcohol in the product is formed by the condensation of two molecules of hydroxydihydronordicyclopentadiene at 180 to 250 degrees C. in the presence of a strongly alkaline catalyst. Invented by Herman A. Bruson, Philadelphia, Pa. Assigned to The Resinous Products & Chemical Co., Philadelphia, Pa. Application March 14, 1944. 5 claims.

2,404,892. SHELLAC-MODIFIED FUSIBLE RESIN composition comprising an alkaline-catalyzed shellac-aniline-formaldehyde resin. The formaldehyde is equivalent to ¾ mol for each mol of aniline, and the shellac used does not exceed 50% by weight of the aniline. The resin is thermosetting when it contains about two mols combined formaldehyde for each mol of aniline. It is alkali resistant. It is suitable for use in surface coating compositions as well as a laminating adhesive for paper, cloth, etc., and also has good electrical properties. Invented by Milton J. Scott, Stanford, Conn. Assigned to American Cyanamid Company, New York, N. Y. Application February 28, 1942. 11 claims.

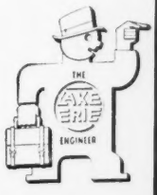
2,405,151. ARYLAMINE SALTS OF ANTHRAQUINONE - SULPHONIC ACIDS as printing aids. A printing paste is made of a thio-indigo vat dye, a thickener, and an arylamine salt of a quinone-sulphonic acid. The thickener is composed of a gum, sodium carbonate, potassium carbonate, sodium sulphoxylate formaldehyde, glycerine, and water. The arylamine is from the group composing aniline, toluidine, and xylidine and the acid from the mono- and di-sulphonic acids of naphthoquinone and anthraquinone. The compounds are dry solids, easily powdered or dissolved, will not cause deterioration of the paste, and have other advantages depending on their usage. Invented by Roy Herman Kienle and Chester Albert Amick, Bound Brook, N. J. Assigned to American Cyanamid Company, New York, N. Y. Application July 1, 1943. 6 claims.

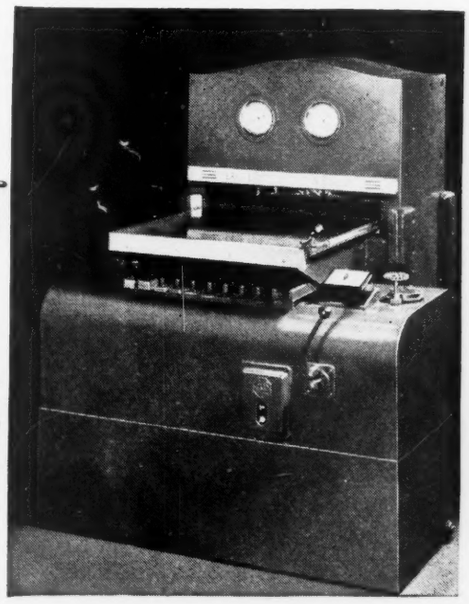
2,405,249. METHOD OF APPLYING COATING FILMS. (See under "Miscellaneous" heading.)

Printing Presses and Equipment

2,404,159. TRANSFER ROLLER FOR INK DISTRIBUTION that is said to insure application of the right quantity of ink along the printing cylinder of a rotary printing press. It includes a sectional ink transfer roller comprising a cylindrical core and a plurality of sleeves removably mounted end to end thereon. All, or certain of the sleeves, have ribs of varying widths according to the character of the printed product arranged in different relative positions along the roller. Certain of the sleeves may have continuous ink transfer surfaces, according to the quantities of ink that are to be applied to the printing cylinder. The sectional ink transfer roller is thereby provided with raised

Hold Back Rising Costs *with* ACRAPLATE





Illustrated is th Model 18 Acra plate with 24" 20" platens. Acra plates are avail able in a complet range of sizes t meet every need.

THE ability of the Acraplate to reduce printing costs . . . and reduce them substantially . . . is being demonstrated every day in progressive printing plants throughout the United States and Canada. For rubber plates made on the Lake Erie Acraplate cut printing costs in these specific, proven ways—

- Eliminate the profitless investment and costly storage of standing forms. Resinous matrices can be stored indefinitely in ¼ the space and weigh only about 1/30 as much.
- Permit many more jobs to be run in multiple with resultant saving in press time.
- Yield definite savings in ink and make-ready costs.
- Sheets lie flat after printing due to extremely light impression and elimination of embossing, thereby speeding up gathering and jogging.

Any of these savings is mighty important today. Acraplate can make all of them plus others for you. It will pay you to get detailed information about the Acraplate . . . the complete range of models available . . . how they operate . . . what they can do for you. Write to Lake Erie for these facts—today!

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BUFFALO, N.Y. U.S.A.

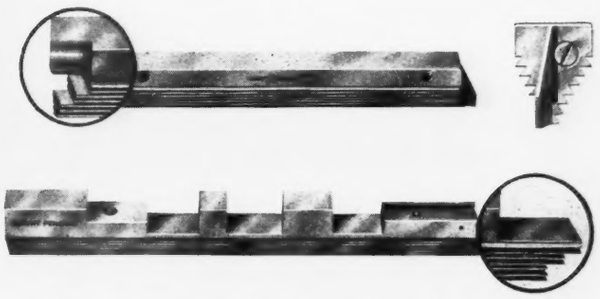
- Leading manufacturer of hydraulic presses—all sizes and types—stereotyping . . . plastic molding . . . rubber vulcanizing . . . processing . . . metal working . . . special purpose.

Matrices

in Linotype and Intertype plants are a critical item today.

Even in normal times they are very much worth conserving because of the heavy investment they represent.

The "STAR" *Improved* SECOND ELEVATOR AND DISTRIBUTOR BOX BARS,



because of their patented design, eliminate the usual gap between bars. The transfer of matrices at this point becomes a smooth, instead of a combination—destroying operation.

Also, the chances of breaking an end on a Distributor Box Bar, when the elevator is "slammed" up with a full line of matrices, is lessened by 90%.

P.S.—Changing a Bar Point on a "STAR" Distributor Box Bar is a matter of five minutes — instead of a half hour. No drills to use.

Those who *know* specify ACE BELTS

PRECISION
TRADE ★ MARK
LINOTYPE PARTS COMPANY
Factory and Main Office:
WEATHERLY, PA.
Branch Office: 314 WEST 10th STREET, KANSAS CITY 6, MO.
CHICAGO • MINNEAPOLIS • DENVER

Pitch Line of Gears

THIS is a term often used but none too clearly understood by many. If when two gears are correctly in mesh one imaginary line is drawn touching the tips of all the teeth of one gear and another the tips of all the teeth of the other, the pitch line of these two gears will be midway between the two lines.

Another way to put it: when the teeth of each of a pair of gears enter the openings opposite to exactly the same depth, the pitch line is midway between the tips of the teeth of the opposite gears.

and continuous ink transfer surfaces of predetermined areas so as to transfer different amounts of ink at the point of ink distribution. Invented by Howard M. Barber, Pawcatuck, Conn. Assigned to C. B. Cottrell & Sons Co., Westerly, R. I. Original application June 11, 1942. Divided and this application June 12, 1943. 4 claims.

2,404,313. COATED FABRIC useful on printer's blanket and draw sheet for rotary printing and also suitable for raincoats, pocketbooks, camera bellows, upholstery, window shades, footwear, adhesive tape backing, etc. The coated fabric is wear resistant, retains its flexibility, and does not become tacky in widely ranging temperatures. A light weight fabric having approximately six ounces per square yard is coated on either one or both sides with the following composition: plasticized vinyl resin, 39.30%; azelaic diester of monobutyl ether of ethylene glycol, 22.18%; pigments, 39.13%; and stabilizer for the vinyl resin, 0.39%. Invented by Ernest A. Rodman, Newburgh, N. Y. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application January 9, 1943. 1 claim.

2,404,350. CONTINUOUS METHOD OF PRINTING TEXTILES in which the endless backing blanket is led from the press cylinder directly to a washing and scrubbing area and back to the press cylinder past a mechanism for removing moisture, lint, and ink. By washing the blanket periodically, there is a minimum of wastage of printed material through ink smears. The "back grey" strip of fabric, usually fed between the material to be printed and the blanket to take up ink smears or blotches, is eliminated entirely. The washing mechanism includes a doctor blade to remove washing fluid by a plowing action to permit it to be discharged by falling, while lint and ink particles are carried off to an edge of the blanket for elimination by a sheering action. In operation, an elongated strip of material to be printed is fed between the blanket and a printing roller. When strip is printed and separated from the blanket, blanket is guided to and through the washing and scrubbing area. The arrangement is such that only the ink-smeared portions of blanket are washed and the outer margins are maintained dry, preventing the washing fluid from creeping to the inside surface of blanket. Invented by Viggo Carlsen, Norwich, Alvin Heinrich, Taftville, and Dona L. Ballou, Jewett City, Conn. Assigned to The Aspinook Corporation, Jewett City, Conn. Application December 16, 1943. 16 claims.

2,404,689. DOCTOR BLADE having an edge bevelled in the usual manner to an obtuse angle and sharpened to a razor edge. However, the side of the blade that rests on the printing roller of a textile printing machine is plated with chromium or tantalum. The plating is carried to the razor edge of the doctor blade on the bearing side so that corrosive acids in the printing paste do not affect the steel edge of the blade. After considerable use, the blade may be removed and sharpened in the usual manner, since the beveled face is not plated. Moreover, because of its hardness, the edge of the plated side of the blade will not wear under this sharpening. Invented by Viggo Carlsen, Norwich, and Alwin Heinrich, Taftville, Conn. Assigned to The As-

OHIO KNIVES

O.K.

BLACKHARROW

PAPER TRIMMING KNIVES

● They give 25 to 40% longer service. Give better cutting at lower cost—proven under severe test in America's largest paper mills and printing plants. Made of a new alloy to withstand heavier cutting and still hold a keen edge for long runs. Ground with a slight concave and taper on the face for clearance—smooth cutting.

MAIL TODAY

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

Gentlemen: Please send without obligation specific data on knives I have checked.
☐ Trimmer ☐ Revolving Cutter ☐ Slitter

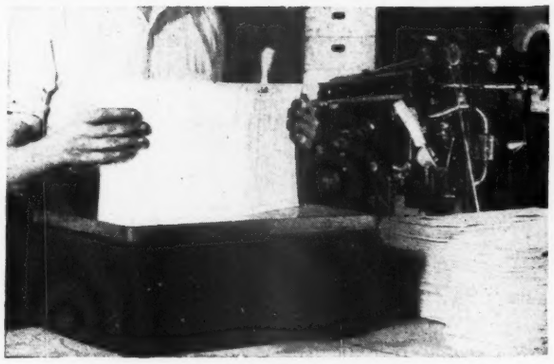
COMPANY_____

NAME_____

ADDRESS_____

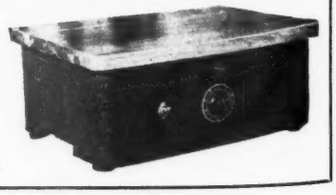
The OHIO KNIFE Co.
CINCINNATI 23, OHIO, U. S. A.

SYNTRON
"VIBRATING"
PAPER JOGGERS



FOR EASIER, FASTER PAPER ALIGNMENT
—from onionskin to heavy board.

A variety of models to meet your requirements.



Write for folder
SYNTRON CO.
577 Lexington, Homer City, Pa.

WE ARE HAPPY TO BE ABLE TO SAY THAT THERE ARE MORE

CUSHMAN
(OFFSET)
MOTORS

being shipped today than ever before,—in spite of material shortages.

It is significant that a very large percentage of these motors go to those who have been users of Cushman Motors for many years.

Cushman Motor Division

LINOTYPE PARTS COMPANY
WEATHERLY, PENNA.

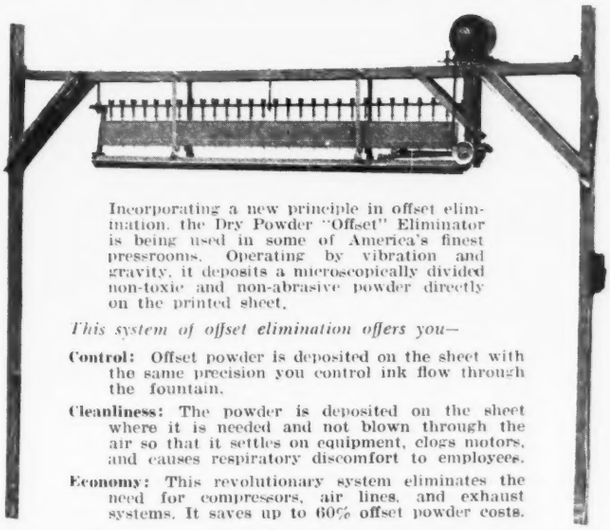
LASTING IMPRESSIONS
because . . .

There's a dependable, deep-down "difference" in molds made from WOOD DRY MATS.

WOOD DRY MATS

WOOD FLONG CORPORATION
HOOSICK FALLS, N. Y.
NEW YORK CITY OFFICE:
551 FIFTH AVENUE, NEW YORK 17, N. Y.

New Offset Eliminator!



Incorporating a new principle in offset elimination, the Dry Powder "Offset" Eliminator is being used in some of America's finest pressrooms. Operating by vibration and gravity, it deposits a microscopically divided non-toxic and non-abrasive powder directly on the printed sheet.

This system of offset elimination offers you—

Control: Offset powder is deposited on the sheet with the same precision you control ink flow through the fountain.

Cleanliness: The powder is deposited on the sheet where it is needed and not blown through the air so that it settles on equipment, clogs motors, and causes respiratory discomfort to employees.

Economy: This revolutionary system eliminates the need for compressors, air lines, and exhaust systems. It saves up to 60% offset powder costs.

For more information about this Dry Powder "Offset" Eliminator write

Dry Powder Offset Eliminator

WINTON Engineering Co.
216 W. ELDER ST.
CINCINNATI, OHIO

The Royle Router

- A large table mounted on a rigidly constructed column.
- Convenient alignment and tightening of driving belts.
- Running parts designed to reduce vibration.
- Sufficient speed at cutter edge to route fine or rough out without reducing speed.
- Precisely fulcrumed elevating mechanism assures immediate reaction to pressure on the foot pedal.
- Changing cutter heads a matter of seconds.
- Speed and balance are built into Royle Routers.

JOHN ROYLE & SONS
Established 1855

10 Essex Street **Paterson 3, N. J.**

FOR MAKING GOOD IMPRESSIONS

HERRICK Ink always gives clear impressions because it is made from a specific formula to match your letterpress or lithographic needs.

After careful study, HERRICK will prepare an ink that matches every pressroom condition—ink that's as individually yours as your fingerprint. What's more, you can see the difference in printing results: the uniform density and extra coverage of HERRICK Inks produce true, solid black, smudgeless impressions.

HERRICK Inks

WM. C. HERRICK INK CO., INC.
Main Office & Plant • EAST RUTHERFORD, N. J.

DUPLEX
TUBULAR VACUUM CASTING BOX

The modern method for making better plates—no buckling of the mat—suction holds the mat against the box smoothing it out and making the plates true and uniform.

THE DUPLEX PRINTING PRESS COMPANY
BATTLE CREEK, MICH.
New York Chicago

pinook Corporation, Jewett City, Conn. Application January 16, 1945. 1 claim.

2,404,912. CONSECUTIVE - NUMBER - PRINTER whereby the printing of tickets, checks, etc., may be accomplished simultaneously with the printing of consecutive numbers on the impression receiving surface. The number printer is intended for use with a printing press having a reciprocal form-supporting bed, an impression cylinder and an ink-applying roll. The plunger of the number printer is associated with a movable frisket which is automatically actuated by the reciprocation of the type bed, so that when the plunger is in registration with the ink roll or rolls of the press, the frisket is located to cover the upper end of the plunger in order to receive the ink impression from the roll and prevent its being applied to the plunger. When the bed is advanced to bring the type in impression-imparting engagement with the paper sheets and associated cylinder, the plunger presents an ink-free surface so actuation by the press cylinder does not leave an ink impression on the paper sheets. Invented by Glen N. Krouse, Columbus, Ohio. Unassigned. Application October 11, 1944. 5 claims.

2,405,249. METHOD OF APPLYING COATING FILMS. (See under "Miscellaneous" heading.)

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D. C.

Changes Location

The Simco Co. of Philadelphia, Pa., manufacturers of equipment for the elimination of static electricity, moved into a new building at 920 W. Master St. The firm also serves on a consulting engineering basis.

NAPL Convention

The annual convention of the National Association of Photo-Lithographers will be held in the Shoreham Hotel, Washington, D. C., October 3, 4 and 5. All hotel accomodations in the Shoreham have been sold. The association has made arrangements with the Statler and the Washington to take care of fifty rooms each.

Walter Soderstrom, executive secretary, announces the tentative program includes addresses on Selling, Production, and Management. The subjects listed include: The NAPL's Place in The Graphic Arts Industry, Labor in The Lithographic Industry, Lithographic Cost Study, Photo Mechanical Developments, The Government Printing Office and The Lithographic Industry, and others.

The Washington Litho Club in cooperation with the National Association of Litho Clubs will conduct the Saturday Technical Forum. The Masters of Ceremonies will be Charles Storey and William Heintz, both of Washington. Representatives from the various Litho Clubs will sit as a group panel to answer the technical questions.

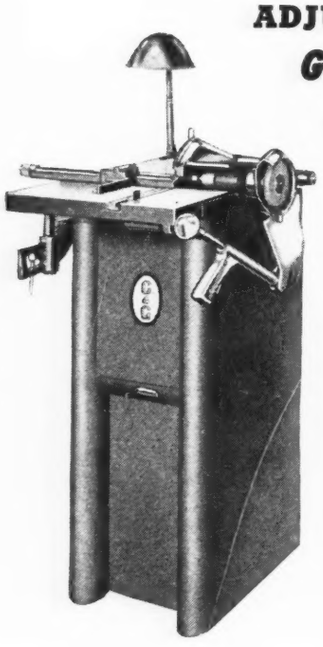
The exhibits by 30 equipment manufacturers and suppliers will be the largest ever.

University Course on Printing Inks

New York University has announced a special course on Printing Inks. The instruction commenced September 27 and will run until January 27, fifteen weeks of 45 hours. Fee is $35. Course coordinator is Wm. F. Talbot, Ph.D., Technical Director of Sun Chemical Corp. Guest specialists will lecture the classes.

This course is an initial attempt to present the technology of printing inks for men in the industry and allied fields. Topics to be discussed are: Printing processes, drying oils and varnishes, natural and synthetic resins, carbon black, inorganic and organic pigments; newspaper, letter press, offset-lith inks for paper; metal decorating inks; coatings, rotogravure inks; testing raw materials and finished inks and servicing.

INSTANT, ACCURATE SAW BLADE ADJUSTMENT WITH THE PISTOL GRIP ON THE NEW MODEL 45 C & G SAW TRIMMER . . . .



As simply and quickly as pulling the trigger of a "45" Pistol, you can raise or lower the saw on the new Model "45" C & G Saw Trimmer to exactly the sawing height desired. Fine adjustments are made with screw knob accurate to .001 of an inch.

Other time-saving features include: –Positive Work Holder – Right & Left-Hand Miter Vise – Chip Chute – Improved Angle Gauge – Made from New, Light Metals.

Ask for New Illustrated Folder Describing Model "45" C & G Saw Trimmers and Accessories.

THE MORRISON COMPANY
(Formerly Milwaukee Saw Trimmer Co.)
125 W. Melvina St., Milwaukee 12, Wis.

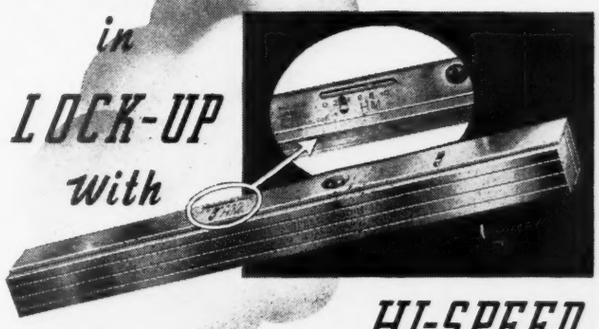
BEVERIDGE DRY MATS *are Dependable*

SAMPLES TO YOUR SPECIFICATIONS
GLADLY SENT GRATIS UPON REQUEST

New Products Division
THE BEVERIDGE PAPER COMPANY
INDIANAPOLIS 4, INDIANA

60 YEARS OF PAPER MAKING SKILL

ACCURATE REGISTER in LOCK-UP with



CHALLENGE *HI-SPEED QUOINS*

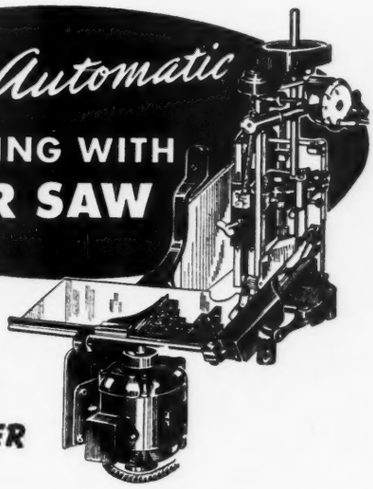
★ **EXACT REGISTER** always—no matter how many times the form is unlocked and locked. The new improved clear-view indicator makes this possible.

Two Style HM Challenge HI-SPEED QUOINS do the work of 4 to 8 ordinary quoins and save up to TWO-THIRDS of the lock-up time required for ordinary quoins. Rust-proof plated steel—self contained. Six handy sizes from 4½ to 12 inches. Write today for details and prices.

561

THE CHALLENGE MACHINERY CO.
"Over Fifty Years in the Service of the Graphic Arts"
MAIN OFFICE AND FACTORY: GRAND HAVEN, MICH.

100% Automatic SLUG SAWING WITH MOHR SAW



IT'S EASIER QUICKER CHEAPER

Use the Mohr Saw for 100% automatic, completely accurate slug sawing. You save time . . . save metal . . . save money. The measure-control dial provides instant precise adjustment of slug length. Slugs are cut to any desired length as they are ejected from the linecasting machine.

Adopt the method favored by shops everywhere for sawing odd-measure machine composition—speed work by using Mohr Saws!

MOHR LINO-SAW COMPANY
126 N. Union Avenue **Chicago 6, Ill.**

USE THIS JUSTRITE SAFETY-APPROVED CAN FOR

FLAMMABLE LIQUIDS

Don't run risks in handling or storing flammable liquids. Use this Justrite Safety Gasoline Can—it's approved for safety by Associated Factory Mutual Fire Insurance Companies and Underwriters' Laboratories, Inc. And it keeps your insurance costs to a minimum!

Safety Gasoline Can

Justrite Safety Cans are made of heavily coated 24-gauge steel, double seamed and soldered. High-gloss, baked-on red enamel finish. Non-spill pouring lip. Sizes from 1 pt. to 5 gal.

See your supplier—today!

JUSTRITE MANUFACTURING COMPANY
2063 N. Southport Ave., Dept. J-2, Chicago 14, Illinois

PARADE OF SPEAKERS

(Continued from Page 38)

John J. Quinn, Production Manager of Pedlar & Ryan, Inc. Advertising Agency, suggested that the ANPA, in cooperation with the AAAA might get together to see if better results could not be accomplished.

He asserted that the New York Production Managers Club had experimented with 120-line screen for newspaper rotogravure reproduction.

He stated that with respect to standards for the production of national advertising plates, no standards existed and nobody seemed to know what it was all about. He recommended that no screen finer than 65 should be used. He also admitted that he didn't know what the proper depth in the highlights in the halftone should be. He feels that the responsibility for these specifications rests with the newspapers. He also suggested that a standard type of halftone or line illustration be used which is suitable for newspaper reproduction. He concluded his remarks by stating, "From you newspapermen we production men need cooperation".

Charles Hoyer of Fuller & Smith & Ross Advertising Agency, arose to state that "the production man in the agency has no authority to tell the client he can't run a certain type of ad". He further stated that the art director is the final authority on the art in any advertisement. In a recent campaign conducted among 350 newspapers, he stated that 70% of the reproductions were good and 30% were poor. The original patterns furnished by the agency to the platemaker consisted of four sets of nickel-face electrotypes.

Newspaper Rop Color In Practical Use

Lewis D. Young, Advertising Director of the Indianapolis *Times*, spoke on the subject of "Run-of-Paper Color Advertising". Mr. Young's address was inspiring. He stated that while color in a daily newspaper is a "headache", yet color is here to stay. He admonished the executives present that if they were not prepared to print color, they better get aboard the bandwagon. He delivered a eulogy upon color in nature, as contrasted to life without color. He asserted that positively national advertisers are interested in color in newspapers.

To demonstrate the terrific impact of advertising color printing in magazines, he asserted that in 1940, 6551 pages of 4-color advertising were printed. In 1944, 16,575 pages in full 4-color were printed—an increase of 153% in the four-year period. In the same period in 1940, newspapers printed 2500 2-color ads and in 1944, 6000 pages of 2-color ads were printed—an increase of 130%. He presented further facts about color by stating that in 25% of the cities of over 100,000, newspapers printed three colors and black advertising frequently.

Mr. Young got off to a good start with his audience by giving full credit to several mechanical executives in the *Times* plant for their interest and cooperation in color printing. He mentioned specifically J. L. Donaldson, Photoengraving Supt., A. W. Barrow, Stereotype Supt. and John Rusie, Pressroom Supt. He said that color printing in newspapers calls for precision team play. There can be no prima donnas in executing the work. Close cooperation by all of the mechanical departments is extremely necessary.

Most of the bugs in newspaper color printing have been eliminated by the trial and error method. This is the only way in which color printing can be perfected.

Hues of paper effect the final appearance of color. Neutral white paper is the best for r.o.p color. Color inks are now available which have been adjusted to high-speed press work.

He detailed at some length the series of color clinics which have been and are being held by Scripp-Howards organization in Minneapolis, Cincinnati and Pittsburgh. He said Scripp-Howard is getting ready for color, which is inevitable. At these clinics, the mechanical executives, the artists, the advertising men and "even some of the brass hats from New York" have participated.

He asserted emphatically that advertisements which have appeared in magazines and had been prepared for magazines, could be reproduced satisfactorily in newspapers. To prove this he exhibited several Brown-Forman Whiskey ads.

He advised that even if newspapers are equipped only for printing one color and black, they should do the best job possible.

With respect to color proofs, he said newspapers should make a rule in all of their plants that if the proofs are not in register, the plates should not be accepted.

He advised strongly against mixing inks in the plant. He said the ink manufacturers can supply all of the various shades and hues needed from their standard color catalogs.

He said that everybody, including the make-up man, should know when a color plate is to be placed next to the ring on the plate cylinder in the press.

All together, Mr. Young's address on r.o.p color printing in newspapers probably was one of the most convincing that has ever been presented to any ANPA Mechanical Conference. Mr. Young and the *Times* organization are to be congratulated upon their enthusiasm and the excellence of the color printing in the *Times*.

Paper Ceiling Prices

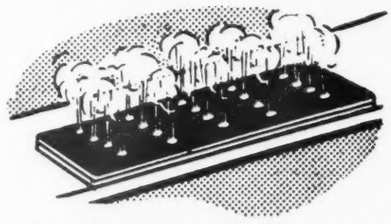
Wholesale ceiling prices of most paper and paper products on which manufacturers' ceiling prices have been increased since March 31, 1946, may be adjusted to maintain the percentage discounts and mark-ups in effect on that date, OPA announced recently. Similar action affecting retail prices will be taken soon, OPA said.

This action was effective August 5, 1946.

No drastic price increases will result on paper products used for trade and industrial purposes, OPA said, since resellers have been operating on percentage margins.

STEREOTYPE PERFORATED GUMMED PACKING FELT

Important where considerable shrinkage is employed



Manufactured under Patent No. 1,967,444

Is More Flexible • Forms with the Mat • Dries Faster • Sets Instantly

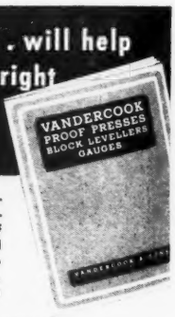
Send for a Trial Order Today — Sheets or Cut Strips

American Publishers Supply
P. O. Box 924 Lynn, Mass.

Tools of Business

EVER Ready Label Corp. has published a new illustrated 32 page catalog in which are described the many kinds of labels manufactured by this firm. Many of the illustrations show labels in their actual sizes.

This Booklet . . . will help you choose the right PROVING EQUIPMENT



Contains twenty-five illustrations and brief descriptions of Vandercook Proof Presses, Block Levellers and Gauges—enabling you to compare one with another, and thus determine which best suits your needs.

VANDERCOOK & SONS, INC.
900 N. Kilpatrick Ave., Chicago 51, Ill.

VANDERCOOK PREMAKEREADY EQUIPMENT

Wanted

CRAFTSMAN'S LINE-UP TABLE

We will pay cash for a used Craftsman's Geared Line-up and Register Table size 53 x 71 inches, with graduated steel gauges and two-geared line-up frame. Wire or write to The Ronalds Co. Limited, 6306 Park Avenue, Montreal, Canada, stating condition, age, serial number and price.

Cut Make-ready costs with

OPTI-CHEK

You can set up color plates for perfect register in a matter of minutes instead of hours—without use of measuring devices. Puts an end to waste of paper, cellophane, ink, etc. — No more idle presses Made in various widths to accommodate any printing. *Write for more information.*

H. H. HEINRICH CO.
200 VARICK STREET NEW YORK, NEW YORK

BAUM FOLDERS

RUSSELL ERNEST BAUM
615 Chestnut Street Philadelphia, Pennsylvania

FW-45 SPACEBAND CLEANER

Cleans spacebands better-up to 80% faster. Makes matrices last longer, and give long, trouble-free service. Insures adequate, uniform lubrication.

FULLER MACHINE CO.
17 Haigh Ave., Schenectady 4, N.Y.

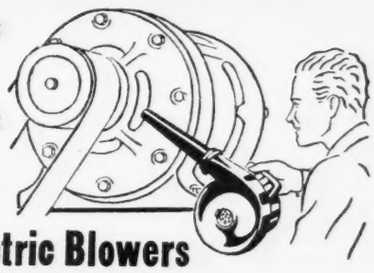
EQUIPMENT FOR PRINTERS

Mitering machines · Composing sticks · Slug clippers · Band saws · Lead and rule cutters · Newspaper bases, files and racks.

H. B. ROUSE & COMPANY
2214 North Wayne Ave. Chicago, Illinois

Cleaner Type Less Loss Better Work

when you blow out dust with



TORNADO Electric Blowers

Powerful 1 h. p. motor blows clean, dry air at 295 m. p. h. Cleans type, cases, presses, thoroly, quickly, at low cost. Convertible into Vacuum Cleaner. Soon pays cost.

Write for details and Free Trial Offer!

TAKE THE DUST OUT OF DUSTRY with BREUER'S BALL BEARING TORNADO PORTABLE ELECTRIC BLOWER

BREUER ELECTRIC MFG. CO.
5141 N. Ravenswood Ave., Chicago, 40

SAFETY · RELIABILITY · ECONOMY

CLINE PRESS DRIVES and CONTROL Reels, Tensions and Pasters...

CLINE SYSTEM

CLINE ELEC. MFG. CO.
Chicago: 211 West Wacker Drive
New York: 220 East 42nd Street
San Francisco: 1st Nat'l Bank Bldg

RICHARDS *Since 1900*

KALAMAZOO, 13F

Saw-Trimmers, Flat and Curved Plate Routers, Stereotype Saws and Mortisers, Steel Rule Dies.

The most complete line built. See our page ad July issue or ask for catalog.

For Linotype and Intertype

REID MAGAZINE RACKS

ALSO FULL STOCK MOTOR PINIONS
VACUUM PUMPS

Order from WILLIAM REID CO., 2271 Clybourn, Chicago 14, Ill.

The ELROD produces leads, slugs, rules and base of the highest quality

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14

★ STAR CUT CEMENT ★

Since 1936 — *For Mounting* — Since 1936

CUTS...STEREOTYPES...ELECTROTYPES

65c per tube-$5.25 per doz. $5.00 per doz. in two doz. lots, $4.00 per doz. in gross lots.

★ STAR CEMENT COMPANY
45 Malone Avenue, BELLEVILLE 9, N. J. ★

Classified

WANTED

High grade pressman to take charge of Miehle cylinders and Miller two-color.

Write Stamats Publishing Company, Cedar Rapids, Iowa.

CHEMICAL-MECHANICAL ENGINEER

Midwestern manufacturer requires young graduate mechanical or chemical engineer who has experience or knowledge of printing and printing equipment. Good salary and advancement opportunity. Write full details of education, experience and salary required to Box 265, c/o *Printing Equipment Engineer*.

WANTED

Rotogravure Printing Presses—Web or Sheet Fed—Copper Cylinders, Cellophane Slitters—Sheeters. ALLEN MACEY COMPANY, 80 Boylston Street, Boston, 16, Mass.

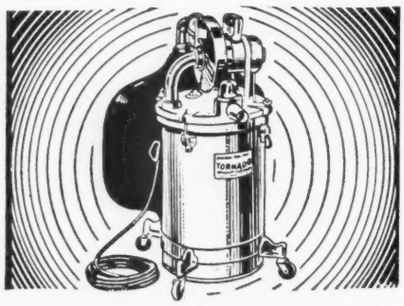
IDEAL Synthox ROLLERS

EFFICIENT, all-synthetic surface rollers for every press position. Form rollers print clean colors; distributors have affinity for linseed, aniline, other inks.

GUARANTEED against defects in workmanship and material. Used in hundreds of plants with great success. Material applied to your cores.

IDEAL ROLLER & MANUFACTURING CO. Chicago 8, Illinois Long Island City 1, N.Y.

QUICKER CLEANUPS with TORNADO



KEEP your plant clean — protect machinery — reduce power costs— salvagescrap — with the TORNADO Portable Industrial Vacuum Cleaner. Powerful. Portable. Picks up dust, dirt, chips, etc. Light weight. Large capacity.

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